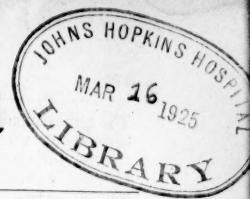


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ORIGINAL ARTICLES

TRANSACTIONS OF THE NEW ENGLAND BRANCH OF THE AMERICAN UROLOGICAL ASSOCIATION MEETING, NOVEMBER 18, 1924

THE forty-fourth meeting and the seventeenth annual meeting of the New England Branch of the American Urological Association was held at the Harvard Club, Boston, on November 18, 1924.

After the reports of the Secretary-Treasurer and the minutes of the last meeting had been read, the following officers were elected:

President: Dr. W. W. Townsend, Burlington, Vt.

Secretary-Treasurer: Dr. E. Granville Crabtree, 99 Commonwealth Ave., Boston.

Executive Committee: Dr. Barney, Chairman; Dr. Perry, representing Mass.; Dr. Jones, representing R. I.; Dr. Rowley, representing Conn.; Dr. Mitchell, representing Me.; Dr. Townsend, representing Vt.

Recognition was made by the Society of the recent death of Dr. Halpin of Lowell.

Dr. Allan Winter Rowe then read an interesting and instructive paper on The Objective Determination of Gonad Failure in the Male. He also presented the manuscript by Dr. Charles Lawrence on Critical Study of Endocrine Therapy in Gonad Failure in the Male.

DR. BARNEY: In view of the considerable interest taken lately in strictures of the ureter and in view of the paper given us by Dr. Rathbun of Brooklyn, last winter, I thought a report of this case and a demonstration of the specimen would not be out of place.

The patient was a man of 48, a Greek, a tanner by trade. He came to the Surgical Out-Patient Department at the Massachusetts General Hospital in August, 1919, complaining of a pain in the left side. The notes are incomplete and nothing was said as to treatment or diagnosis. He returned to the Out-Patient in October, 1923, complaining of frequency, day 6-8, night 1-2, hematuria, dysuria and said that he had had sharp, intermittent pain in the left side of the abdomen for three or four years, off and on. An attempt to get a more detailed history was unsuccessful, as the man did not speak English and did not seem to understand what we were driving at. Abdominal examination on various occasions showed somewhat tender, easily palpable, evidently large left kidney, with costovertebral tenderness on the left. The urine was cloudy, contained a small trace of albumin and the sediment was loaded with pus and blood

on several occasions. One x-ray showed no evidence of stone in the urinary tract, but the left kidney was found to be considerably larger than the right. An investigation of the gastrointestinal tract was said to be "suggestive of pathology in the appendix, although right renal pathology cannot be ruled out."

In November, 1923, cystoscopy showed a congested bladder. Both ureters were entered without difficulty. The sediment of the right urine was negative; that of the left urine was loaded with pus, red cells and bacilli. A careful search of the sediment of the left urine and of the bladder urine showed no evidence of tubercle bacilli. It developed about this time that the patient was the subject of epilepsy and he was sent to the Nerve Department for study. In February, 1924, another cystoscopy was done. The bladder was again found to be red and there was edema at the base, especially around the left ureter, strongly suggesting tuberculosis, but the bladder was not intolerant. A No. 6 catheter passed up the left ureter only about 5 cm., but after some manipulation could be pushed a little further, where it was again held up and then, after considerable effort, was passed to the kidney. At first the flow was somewhat scanty but later became steady and rapid, suggesting retention. Again the left urine was loaded with pus and blood, but tubercle bacilli could not be found. No mention was made at the time of this examination of the presence of organisms of any sort. A No. 6 catheter passed easily to the right kidney with a normal flow of clear urine. The sediment of this showed a few blood cells and one or two leukocytes, with no organisms at all. Guinea pigs were inoculated with the bladder urine on two occasions and both were negative. Pyelograms were done on two occasions, in November, 1923, and in February, 1924. The injected pelvis of the left kidney was large and appeared to be divided, with the calices of the upper portion blunted. The ureter takes a rather wide course away from the spine. In the region of the third lumbar and between the level of the transverse process of the third and fourth lumbar vertebrae, there is a distinct narrowing, with marked dilatation above and some dilatation below. This narrowing suggests the possibility of external pressure, but the other anatomical relations appeared to be normal.

The appearances seem to be conclusive of a stricture, about two inches long.

The patient was admitted to the Genito-Urinary service in May, 1924. Physical examination showed nothing of importance, except

found to be large, somewhat adherent, but looked and felt quite normal. The ureter at its exit from the kidney was about the size of one's thumb, definitely thickened and quite adherent. It continued in this condition to a point about

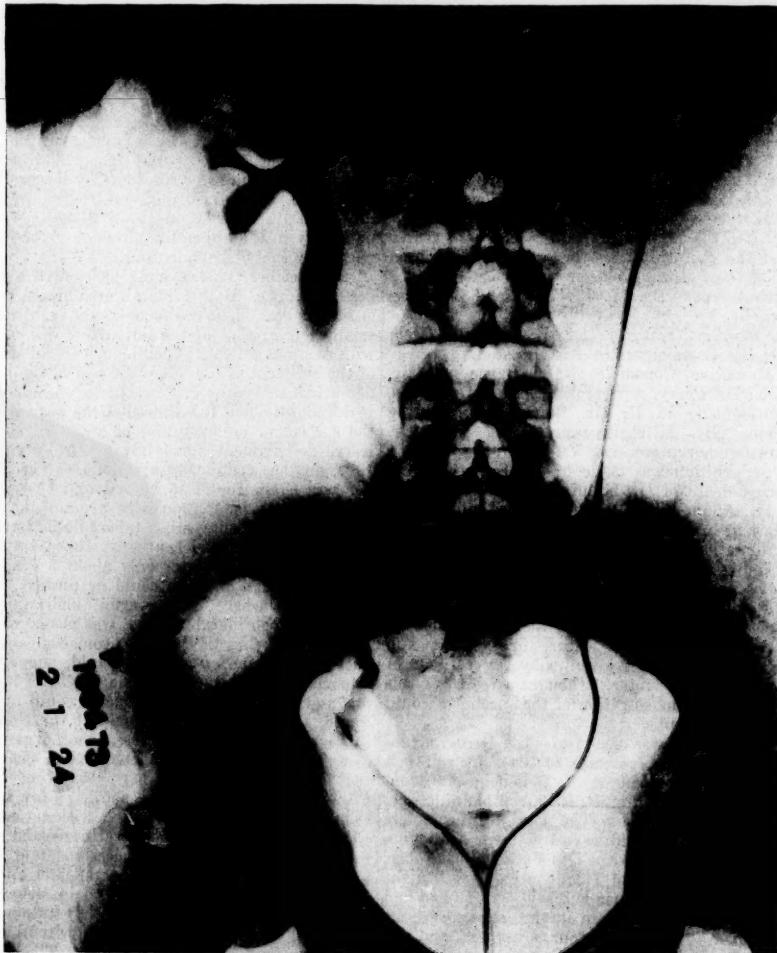


FIGURE I

as already mentioned, a tender, palpable and evidently large left kidney. On May 15th, I performed a left nephrectomy. Pre-operative and post-operative diagnosis was stricture of the ureter. The kidney was exposed without difficulty, through a left lumbar incision. It was

two inches below the lower pole of the kidney. At this point it became very much narrowed for a distance of about 5 cm., after which it appeared to be normal in size and consistency.

The ureter was freed up from its adhesions to a point well below the strictured portion and

just above the pelvic brim, where it was ligated and divided. The kidney was then removed without incident. On splitting the kidney, it appeared normal except that the upper calices were somewhat dilated and the mucosa of this

point of constriction, it was markedly thickened and the mucosa was ulcerated for an area about $\frac{1}{2}$ cm. in diameter. Above this point the ureter was much dilated, thickened and the mucosa pale and deeply corrugated. Convoca-

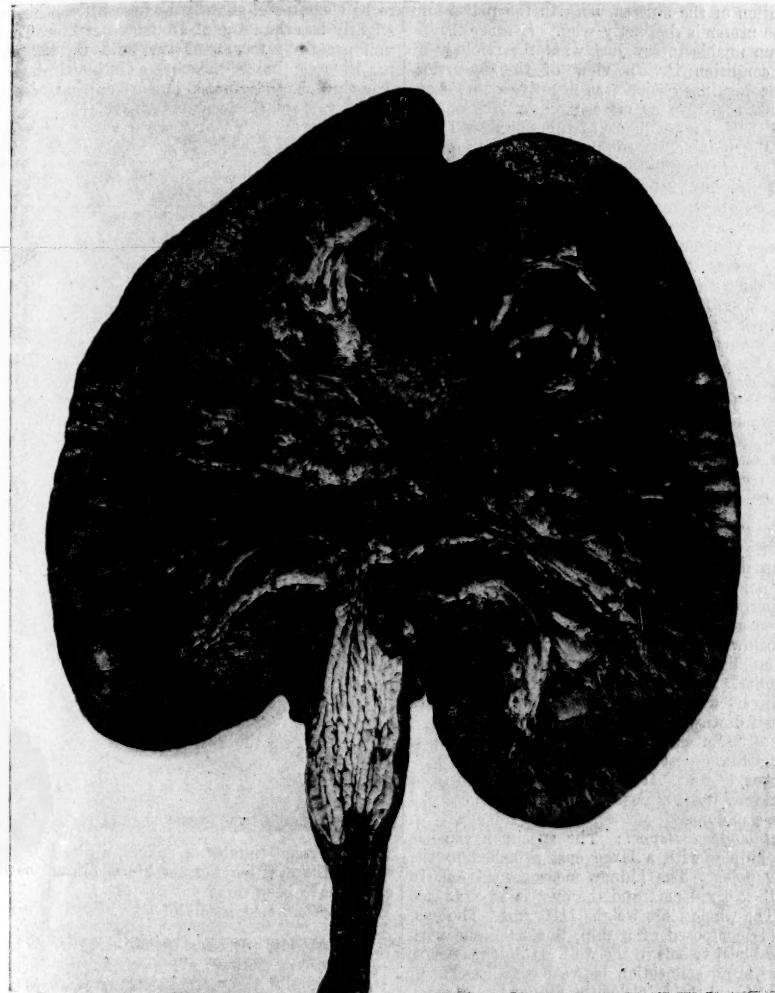


FIGURE II

portion and of the pelvis was studded with well-defined papules, resembling tubercles. This condition continued onwards along the ureter to a point just below its outlet. On splitting the ureter the portion below the constriction appeared normal, but deeply injected. At the

lescence was normal and the patient has been free from pain ever since.

A pathological report on the kidney was made by Dr. H. F. Hartwell. Microscopic examination of various portions of the cortex showed areas of small, round cell infiltration, most nu-

merous at the pelvis. Many tubules were dilated. No evidence of tubercle bacilli could be found. You will see in the pyelogram (Fig. 1) the evidence upon which we based our diagnosis of stricture of the ureter. The specimen itself shows unmistakable narrowing and the condition of the mucosa, both in the pelvis and in the ureter is distinctly seen. (Figure 2.)

I am unable to say just what the etiology of this condition is. In view of the fact that guinea pig inoculation was negative on two occasions, that two or more examinations of the urine showed no evidence of tubercle bacilli and that the pathologist could find no microscopic evidence of tuberculosis, I do not see how we can ascribe the findings to this disease. At the same time, we know how elusive the tubercle bacillus is at times and subsequent events may show that the case is after all one of tuberculous stricture of the ureter. We questioned the patient carefully about the possibility of renal calculus, but obtained nothing in his history that would suggest such a condition. In any event, it seemed to be a very unusual specimen and the etiology must, for the time being, remain in doubt.

Question: What was the organism?

Dr. Barney: We did not find any, except in one examination there seemed to be many colon bacilli in the urine from the left kidney.

Dr. Quinby: I wish to make brief reports of three recent cases which may be of interest. The first concerns the

NATURE OF THE CONTENTS OF SOLITARY CYSTS OF THE KIDNEY

CASE I. A married woman of 49 complained of a painful mass in the left side of abdomen, hurting when corset was worn. Examination showed a mass the size of a grapefruit, 5 to 10 cm. below the rib margin on the left, firm and moving slightly with respiration. It was slightly tender. A pyelogram showed the kidney pelvis inverted and rotated so that the calices pointed downward. The urine at cystoscopy was normal from each kidney. At operation a large solitary cyst of the lower pole of the kidney was found. It was easily shelled out and the kidney itself appeared normal. A nephrectomy was done.

Pathological Report: The specimen consists of a kidney with a large cyst attached to the lower pole. The kidney measures 14 cm. in length x 6 x 4 cm., and the cyst is 13 x 12 x 6 cm. The whole mass weighs 1180 gms. The cyst wall is composed of a thin, fibrous tissue with a few blood vessels in the wall. It is translucent. There is no connection between the interior of the cyst and the pelvis of the kidney. The contents of the cyst consist of about 500 c.c. of clear, yellowish fluid of watery consistency, which is not urine. The surface of the kidney is smooth, friable and shows a small notch about 2 cm. from the origin of the cyst along the greater curvature. The ureter and pelvis appear normal.

The microscope shows a normal cortex and medulla with no evidence of inflammation. There is no pressure atrophy.

Diagnosis: Single cyst of kidney (probably congenital).

The chemical report on the cyst fluid showed it to be clear, pale, slightly opalescent, containing slightly less than 4 g. of albumen per liter. Total non protein nitrogen of the fluid was 29 mg. per 100 c.c.; that is, the same as in blood plasma. The fluid is therefore the same as that of any other cyst; ovarian, cerebellar, etc.

Had I been sure that there was no connection



CASE I

with the renal tubules or calices, a plastic resection of the cyst leaving the kidney intact could easily have been done.

The second case is one of a

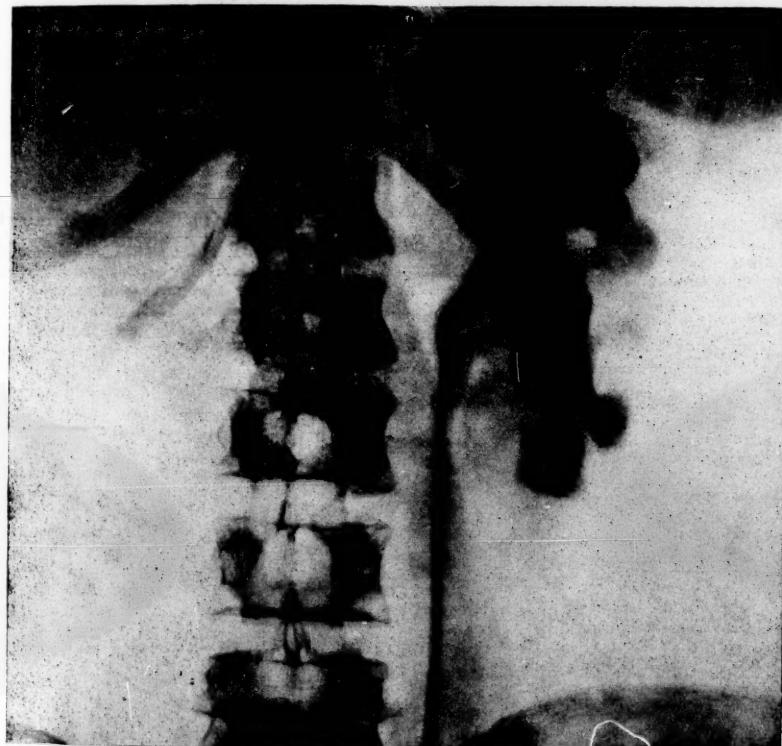
UNILATERAL KIDNEY, APPARENTLY WITHOUT FUSION

CASE II. A woman, married, of 33 years, entered the hospital complaining of hematuria of five weeks' duration.

She first entered the hospital Nov. 3, 1922, following a married life of five years, which had been upset by one miscarriage and two breech deliveries, the first of which was a still-birth, and the second of which was a premature baby.

Five months before admission she gave birth to a normal child. At this time she complained of having seen something come out of the front passage for the past two years. For 3½ years before admission, that is, ever since her second pregnancy, she had grown more nervous, suffered with constant backache, and headache, and felt tired practically all the time. While on her feet she had frequency every half hour. She

weeks ago, when she noticed a gross hematuria, associated with pain in the right lumbar back, which radiated around the flank to the mid-groin. At the onset of these symptoms she also had nycturia and some burning on micturition. One week after its beginning the pain was quite severe and caused her to walk the floor all night. Her urine has continued bloody, although somewhat less so than in the beginning. The pain

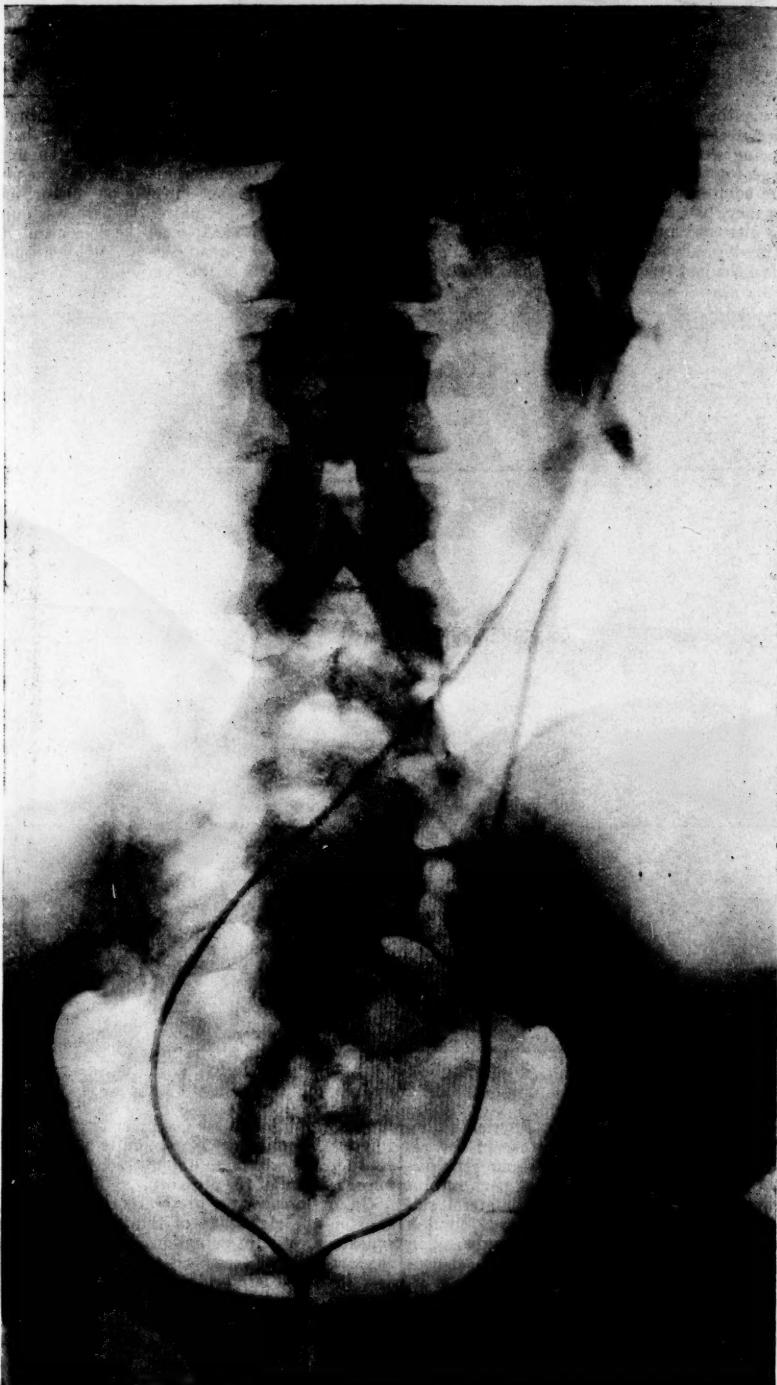


CASE II

also had a profuse leukorrhea. Physical examination was essentially negative except for relaxed pelvic floor, with cystocele and retroversion. On Nov. 6, 1922, Dr. Newton performed a supravaginal hysterectomy and bilateral salpingo-oophorectomy for prolapse, and found a didelphic, bifid uterus with early pregnancy in one cornu. The patient made a normal convalescence, and was discharged on Nov. 24, 1922. Except for rather severe headache, coming on about two months after discharge and relieved somewhat by pills, she was quite well until five weeks ago.

in the right lower back still comes and goes. Physical examination is essentially negative except for sallow skin and an operative scar in the lower midline of the abdomen.

On cystoscopy no ureteral orifice could be seen on the right side of the bladder, and on repeated x-ray examinations no right kidney shadow could be seen. Bloody urine flowed in jets from the left orifice. Indigo carmine was injected at a subsequent examination and this was seen to come only from the left, no trace of a right orifice being found. With a ureteral



CASE III

catheter of good size occluding the left orifice a catheter in the bladder failed to withdraw any blue colored urine.

Pyelogram of the left kidney showed blunting of the calices with slight dilatation consistent with a diagnosis of infectious pyelitis or pyonephritis. Cultures showed the colon bacillus.

Here we have illustrated the well known fact that anomalies of development, especially those of the genito-urinary apparatus, are frequently multiple.

The third case is one of a

UNILATERAL FUSED KIDNEY WITH TWO URETERS ENTERING THE BLADDER NORMALLY

CASE III. A boy, single, of 21 years, was referred by Dr. George D. Henderson, of Holyoke, for investigation of the cause of cystitis.

Five or six weeks earlier the patient had acute severe pain in the right lower quadrant of the abdomen. This subsided to appear again two or three days later higher up in the loin and back of the same side. The medicine given by his doctor caused the pain to disappear for a month, reappearing when medicine was omitted. He then had slight ardor and on one occasion terminal hematuria. The urine had been continuously cloudy.

By the time the patient entered the hospital for investigation he felt entirely well.

Cystoscopic examination showed a normal bladder with the ureteral orifices in the usual position. Catheters were passed for the full distance on each side without obstruction. Renal function from the right catheter was but half that from the left but both amounts were within normal limits. Cultures were sterile and the urine otherwise normal. Pyelograms showed that the left ureter crossed the midline of the body and that all the renal mass was located on the right side of the spine.

We have here therefore an instance of a unilateral kidney mass which has apparently undergone an acute pyelitis.

DISCUSSION OF CASE REPORTS

DR. TOWNSEND: During a routine autopsy at the Mary Fletcher Hospital yesterday I was asked to go to the Autopsy room to see a cyst of the kidney. The right kidney showed a large cyst on the upper pole—I thought it to be a solitary cyst, but when the left kidney was removed it showed cystic degeneration, too. The cysts were the ordinary "garden variety," due to a chronic interstitial nephritis. Had I been operating upon this subject I would have been sorely tempted to have removed the large cyst of the right kidney as being one of solitary cyst—it so closely resembled this pathological entity.

Dr. Young's case of his "soda fountain man" leads me to wonder if Dr. Chute can't say something—he has written much on diverticulitis of the sigmoid, etc.

DR. CUNNINGHAM: I would like to say a few words about Dr. Quinby's presentation on cysts of the kidney, as I have met with four instances of this condition, upon which I have operated. None of these cases were accurately diagnosed prior to operation, which is the history of nearly all of the cases recorded by others, in which instances, as in mine, the operation was undertaken because of a palpable renal tumor.

In regard to treatment, several procedures have been practised. One cannot help but feel that too often nephrectomy has been done when the kidney might have been saved. Aside from the loss of an organ with but little if any impairment of function, it is important to realize that the other kidney has not probably undergone a vicarious hypertrophy, because of the nature of the malady, and is in no condition to undertake the work suddenly thrown upon it by the loss of its mate. In this connection it is of interest to note that in Tuffier's series 11 cases out of 24 died following nephrectomy. Quenu records 5 deaths in 7 nephrectomies, and Lejars 7 deaths in 16 patients so treated. In instances where the cystic kidney is much destroyed, compensation will have taken place, which is easily learned by the routine preoperative study of the renal condition, and under such existing conditions nephrectomy may be the operation of choice.

In cases where there is little or no impairment of renal function, resection of the cyst, partial nephrectomy, and emptying the cyst content and sewing the cyst sac to the skin have been practised with good results.

Resection of the cyst seems to me to be the operation of choice. It has been done successfully by Tuffier, Ricard, Récamier, Albaran, and Bardenheuer, and in 3 of my cases. In 2 of my cases the sacs were incised where they joined the kidney tissue, as there was no real line of cleavage between the sacs and the renal parenchyma. The cysts could, however, be freed from the renal parenchyma by gentle traction, leaving a bleeding surface which was satisfactorily brought together by mattress sutures. In another of my cases, the cyst was of tremendous size, occupying the whole retroperitoneal space. The case has other features of unusual interest. The patient was one of our nurses, who, when first seen, had a mass occupying the right flank, and at which time she refused operation. A few weeks later the mass had grown so that it filled the abdomen not unlike a nine-months' pregnancy. At that time she consented to operation, and upon opening the abdomen, it was found that the tumor was retroperitoneal, with the intestines pushed entirely to the left side of the abdomen, and the transverse colon flattened out across its summit. The transverse colon was freed by incising the peritoneum throughout its whole distance, above and below and the peritoneal flaps thus formed drawn downward and upward. A

cyst occupying the whole retroperitoneal space from the diaphragm into the pelvis, where it obliterated all the pelvic organs, and on either side into the flanks, was evident.

This was tapped and two buckets of a bloodtinged fluid withdrawn. The sac was then stripped from the retroperitoneal region; identified as originating from the lower pole of the right kidney, from which it was separated, and as the sac could not be separated from the structures in the pelvis, it was cut off at that point and the edges purse-stringed and fixed to the lower part of the wound. The remainder of the sac was removed.

The transverse colon remained as a free tube, and fearing the blood supply might have been interfered with, it was sutured down on the soft tissues of the retroperitoneal space with interrupted catgut sutures. The abdomen was drained, and the sac at the lower end of the wound wiped out with iodine and also drained. The patient made a stormy recovery, and a few days later developed a faecal fistula, and soon after the whole transverse colon came out as a sloughing tube about 14 inches long. The faecal fistula persisted but the patient gained in general condition.

Six weeks following the operation, and while we were still considering what should be done about re-establishing the continuity of the intestinal canal, the patient had a movement by rectum. The faecal fistula rapidly healed, and it was perfectly evident that Nature had re-established the continuity of the intestinal canal. The patient recovered rapidly from then on, returned to her duties as a nurse and finished her course.

There remained a small sinus which drained a few drops of a sero-purulent fluid, which required but one dressing a day. She repeatedly requested me to close the sinus, and I persistently refused. After many months another surgeon attempted to resect the fistula and the patient died of general peritonitis.

In the fourth case nephrectomy was done because an obvious hypernephroma was present in the kidney tissue above the cyst.

Albaran and Imbert record 5 cases in which partial nephrectomy was successfully carried out, and Morris recommends this procedure when the renal tissue is spread out over the cyst wall.

Emptying the cyst content and suture of the edges of the cyst to the skin is the least severe operation, and is of value when the patient is in poor condition or the cyst very large. I believe this procedure is the one which should have been done in my third case. If I should meet with this condition again, instead of making the enormous operation which we did in this instance, I would simply tap the cyst, swab it out with iodine, and purse-string it to the surface without disturbing any of the important organs.

I believe that as we come to appreciate the

nature of these cysts, fewer nephrectomies will be done, and the cyst will be resected rather than to sacrifice the organ which is in reality little diseased, as Dr. Quinby has shown.

DR. E. L. YOUNG, JR.: I wish to report a case of pneumaturia that I first saw about four years ago. His first symptom was hematuria for which he was referred to me. The story is as follows: Mr. C., age 51, first seen in March, 1921. Up to about two weeks before there had never been any urinary symptoms. He has always been well. A general exam. had previously shown nothing abnormal but a systolic blood pressure of 160-180. For two weeks he had had some frequency and hematuria, much of which was definitely terminal. X-rays were negative. Cystoscopy showed multiple small reddened elevated papules, many of which were definitely ulcerated. The left ureter was a "golf hole" ureter but the right was not. One week later after bladder washes another cystoscopy was done and the ureters were catheterized. A split function showed a normal and equal function from the kidneys. The sediment was negative on the right and showed a few leucocytes on the left. A sterile culture from both. The bladder culture was reported as a peculiar bacillus probably a coliform. Bladder washes with mercurochrome. Three weeks after first visit patient reported that he passed gas at the end of micturition. This phenomenon increased. Search for a vesico-intestinal fistula by cystoscope and barium enema failed to show such condition but the gas continued. On the basis of the normal urine from the kidneys he received bladder washes only, for about three months when he reported again at the request of his physician to see why he didn't clear up. A further study of the kidney showed a slight degree of hydronephrosis with the same organism from both pelvis. Both ureter openings were stiff and wide open. His blood pressure had risen slightly and there was evidence of moderate kidney damage which was thought to be a nephritis. Quite by accident while having a pyelogram of one side it was found that the other kidney pelvis was filled. We then showed that fluid in the bladder would flow easily into both pelvis. After using kidney lavage by cystoscope we made use of the back flow of fluid into the kidneys and for the last three years the patient has washed out his own kidneys by putting two ounces of 10% mercurochrome into his bladder and then reclining for five or ten minutes with his hips higher than his shoulders. Since a thorough trial of intensive treatment has shown that the infection is not entirely eradicated (even washing the kidneys twice a day for a week) he has contented himself with doing it about three times a week. After a lavage the gas will be absent for 12 to 24 hours and then gradually return. A recent cystoscopy shows a perfectly normal blad-

der other than the staring ureter openings with a slightly hazy urine from each side. The kidney function is about 30% in 2 hours, and the damage to the kidney seems to be very slowly progressive if at all.

DR. RILEY: I would like to report the results of a case given urethral anesthesia. Alypin 4 per cent solution was used. A boy, 16 years old with a history of trauma of the perineum, came into the out-patient clinic with an acute retention. Instrumentation of the urethra found the urethra strictured in its perineal portion. An attempt to pass a filiform bougie caused much pain and free bleeding. One-half to a drachm alypin, 4 per cent solution, was injected into the urethra; almost immediately the patient began to have convulsions. The convulsions were so bad that the patient had to be etherized.

I never saw a case with any bad effects from injecting a local anaesthetic into the urethra until this happened in my clinic. I had an idea that the effect was in the nature of syncope or shock, but this boy had violent convulsions.

THE OBJECTIVE DETERMINATION OF GONAD FAILURE IN THE MALE

BY A. W. ROWE

[Presented before the N. E. Section of the American Urological Society, November 18, 1924.]

GENTLEMEN: During the past ten years we have been carrying on experimental studies designed to furnish objective criteria for the evaluation of diseases of the endocrine system. During the last twenty years a massive literature has accumulated but that portion of it available for such studies as we have been carrying on is relatively meager. Much of the work has been the careful and painstaking observation of animal experiments, enormously interesting and instructive in themselves but not directly translatable into terms of human experience. Aside from metabolic differences intrinsic to different species, there is always the added factor of a great divergence induced by severe traumatism and, frequently, impending death. On the other hand, many of the clinical studies have dealt with the exhibition of glandular products either singly or in various mixtures, these substances being wholly unstandardized and the dosages of unknown strength. Again, the difficulty of interpreting the clinical results of the administration of pluriglandular mixtures is too obvious to require comment.

The line of approach adopted in the present studies can be briefly outlined as follows: Various vital function tests were selected and the results obtained by their use with so-called normal individuals, carefully studied. Such methods have enjoyed in these later years a certain unwarranted ill-repute. In the majority of in-

stances such tests were designed to indicate aberrant function of a single focus. Following the appearance of the initial study, which presented the thesis together with its array of supporting laboratory and clinical evidence, other reports were promptly made showing the application of the test to other and widely divergent conditions with substantially the same results. Such critical studies destroyed any claim to specificity of the test and inhibited any further interest in a continued study of it. Recognizing the complexity of control of any given function, we have approached the problem from the other point of view. For example, the carbohydrate metabolism is regulated severally by the pancreas, the liver, the endocrine system in its several units, the central nervous system, and such physical factors as heat, cold, and muscular exercise, to name a portion only of the agencies involved. If by methods of proven accuracy individual factors in the above list could be eliminated, it should be possible ultimately by exclusion to arrive at a just conclusion. Further, by multiplying the number of tests employed the possibilities of a differential method are greatly increased. While it is conceivable that each of a series of tests would be influenced severally by a group of controlling factors, it is hardly probable that a change in the level of activity of one would produce exactly the same picture as would an analogous change in some other member of the group. Differences occurring may be quantitative, directional, or both. For this reason we have felt it essential to use such tests only as were proven to be significant, and further, in their performance to adopt such methods as offered the maximum of possible accuracy. In connection with the first idea as illustration a very thorough study was made of the diagnostic value of so-called blood sugar curves, and they were discarded as a routine procedure only when they had been shown conclusively to be devoid of diagnostic significance. In the performance of chemical and physical operations accuracy of method usually varies inversely with time of performance. In the selection of methods for use the first consideration only has been the criterion for selection.

Returning to the detail of the method, a large number of vital function tests which offer some measure of information were selected. To these were added others devised by us to meet certain exigencies. Groups of so-called normals were invited to participate in the work, and with their co-operation, and under carefully standardized conditions, the various tests were applied. A sufficient number of subjects were investigated in order that individual idiosyncrasies might be absorbed in average values. One may pause here for a moment to comment on the terms "average" and "normal," which are frequently through error used interchangeably. The average is a base line composed by the summation of a large number of observations and

the reduction of them to an average factor. The normal is that individual whose personal performance varies from this base line by an amount conventionally accepted as not significant. The average is a hairline, the normal a zone.

With criteria of normal performance established and allowable variations determined, the next phase of the work dealt with the application of these tests to individuals in whom there existed a morbidity which could be demonstrated beyond the shadow of a doubt. Male and female surgical castrates, surgical myxodemias, advanced acromegaly, were among the cases thus investigated. With them both the sense, direction and amount of deviation was determined. To take but one illustration of the many possible in a group of individuals showing glandular failure, it was found that the thyroid influenced the basal metabolism profoundly, the amount, as compared with normal standards, indicating a diminution of from 30 to even 60%. Cases of pituitary or gonadal failure of an equal severity as judged from a clinical standpoint, would show aberration of the basal metabolism in the same sense but not the same magnitude. The pituitary cases, and in this connection it should be said that the anterior lobe is the gland at fault, exhibit diminutions of from 10 to 20% below the normal standard. Gonad failure produces qualitatively and quantitatively about the same deviation. With a second test, namely, the Galactose Tolerance, the story is an entirely different one. Failure of the thyroid produces little or no effect on the tolerance threshold the tendency, however, being to raise it slightly. A few words of explanation regarding the test may not be out of place. The Galactose Tolerance, as we have formulated it, implies the determination of the amount of this sugar given to a patient in a basal condition, i. e., fasting and resting, which will produce a transitory melituria, while a dose a few grams less fails to evoke an exhibition of sugar in the urine. The normal level for the male is 30 grams, for the female 40 grams, an intrinsic difference which we ascribe to the diverse mammary function of the two sexes. Reverting to the differential method, we find that the posterior lobe of the pituitary exercises a most profound influence on the carbohydrate metabolism, so that with failure of the posterior lobe the threshold may be raised one, or even in one case 200% above the normal value. With these sharp differences of basal metabolism and tolerance threshold a palpable diagnostic point is here exhibited. Turning to the gonad we find that failure of the internal secretion of the ovary produces a lowering in the threshold of tolerance from the normal of 40 to 30 or even 20 grams. The sense of the shift in connection with a lowered basal metabolic rate differentiates the female gonad from the other two glandular foci. With the testicle, on the other hand,

there is no change in the tolerance threshold, the bilateral male castrate of adult years having the same threshold as does the normal male. One qualification should be made at this point. Up to the present time our studies have dealt primarily with the adult and we are only just beginning the work which will establish the base lines for the pubescent boy and girl. Yet another problem, and one the importance of which can not be over-estimated, will be the extrapolation of our findings to the earlier years of childhood. The necessity of intelligent coöperation on the part of the patient in the performance of many of these tests has precluded the establishment of the prepubertal base lines with present methods.

With the determination, both qualitatively and quantitatively, of the aberrations from the base line induced by glandular dysfunction it was next possible to enter upon the third phase of the work. This has comprised the study of cases of obscure etiology by the methods adopted and the determination of the probable endocrine focus and condition by the harmony of the results with some one of the laboratory pictures. If an endocrine dysfunction could be established the patient would then be placed upon the specific glandular medication indicated by the test and the validity of the diagnosis and progress of the case checked by repeated clinical and laboratory observations. In this latter phase of the work I have been privileged to enjoy the invaluable coöperation of my colleague, Dr. Charles H. Lawrence, under whose personal direction the clinical side of this later phase of the work has been conducted. I wish also to express my indebtedness to the many physicians referring cases for this study who have coöperated most whole-heartedly in personally carrying out the clinical observations with the patients thus studied.

In this connection a further word of explanation should be added. Recognizing that the laboratory picture could be only informative if supplemented and complemented by the most careful clinical observation and report, every case which has taken this test has been given a most thorough clinical examination by a competent physician as a wholly essential part of the picture. Further, all possible clinical entities which could participate in the etiology of the presenting symptoms are thoroughly canvassed, and only by their elimination through unimpeachable contradictory evidence have we arrived by exclusion at a possible endocrine diagnosis. In the series of over seven hundred cases upon which this report is based,—cases which were carefully selected because of a probable endocrine involvement,—we have found that one out of every four or 25% are frankly not endocrine even though the presenting symptoms were highly suggestive. In these cases other morbidity was demonstrated which explained adequately the disease picture presented. For example, of a number of cases sub-

mitted as probable adrenal conditions, the majority were found, on examination, to be either bronzed diabetes or pernicious anaemia.

In view of the wide-spread popularity of the so-called pluriglandular syndrome both in professional and commercial circles, it may be of interest to you to know that but four cases in the seven hundred are to be regarded as potentially due to a primary failure of more than one endocrine focus. And these four I regard as being designated pluriglandular solely because our present knowledge is inadequate to permit of a just differentiation. That there will be a secondary failure of several endocrine foci dependent upon the primary failure of a single focus, is implicit in this statement. With the wide-spread effect on general body metabolism it is impossible that other units of the endocrine system should not suffer equally with the non-endocrine moieties of the body. But to regard the ovarian failure incident to a primary pituitary dysfunction as an index of initial complicity in the disease picture is equally to endow the intestine with an important endocrine function simply because constipation is a characteristic result in myxedema. Before dealing specifically with the testicle a few points of diagnostic significance may be touched upon which these studies have elicited. Vital capacities, to follow the terminology of Dreyer, are found to be greatly affected in thyroid cases, less so in pituitary and ovarian disturbances. That portion of the nitrogen in the urine designated as the residual or undetermined fraction, is found in many of the endocrine cases to be increased significantly above the usual normal level. We are investigating this problem at the present time to ascertain if it be an increase of constituents normally present in the urine in small amounts, or if it be the appearance in the urine of some foreign substance or substances containing nitrogen. Ehrlich's urobilinogen test, suggested as a means of evaluating liver function, is found to be positive in pituitary cases, not in other endocrine disturbances. We do not interpret this as connoting a disturbed liver function as an incident of pituitary dysfunction, but rather that the test, like many other color reactions, is non-specific in character. Low alveolar carbon dioxide in ovarian failure—an interesting suggestion, here, is that the same condition obtains in normal pregnancy—a lymphoid character of the blood in many endocrine cases, a 4 or 5% eosinophilia in pituitary cases where skin eruptions, protein sensitivity and other extraneous factors can be barred, a high blood uric acid associated with a normal level of other nitrogen constituents in disturbances of the pituitary, are a few only among many findings which have assumed possible diagnostic significance.

An interesting point which we have observed is that of a blood and urine picture strongly suggestive of a chronic interstitial nephritis in

many hypothyroid cases which clears up entirely with the exhibition of thyroid extract and the restoration of the patient to a normal level. In this connection it may be mentioned we have come to recognize a type of thyroid failure which violates all of the symptomatic criteria of that condition. They are thin, not fat. They are mentally alert and not sluggish. They have ambition and initiative which is circumscribed by an unreasonable fatigability, and they have basal metabolic rates of from —30 to —40%. On thyroid extract they normalize, stabilize and increase in weight.

Coming now to the immediate topic of my discussion, I turn to the diagnosis of testicular failure. Limiting my remarks solely to the adult sufferer I am constrained to make the humiliating confession that loss of the testicle produces very minor results in the general level of body activity and function. Through the courtesy of your President, Dr. Cunningham, I was privileged to study a year or more ago, a young man of thirty-four who had been castrated for a general tuberculous involvement. Not only were the testicles ablated but the liberal use of carbolic acid completed the therapeutic measures with the result that the young man, when I saw him, was apparently entirely cured of the earlier condition. The really significant departures from the normal which we observed were a slight drop in the basal metabolism, a slow pulse, a low blood pressure, and a weight 10% below the calculated normal. While the young man had a certain fatigability as well, he was in employment which rendered him self-supporting and in the time subsequent to our examination he has increased his earning capacity to the point where he has felt free to marry. The problem here touched upon need not be discussed at this point. For the purpose of rendering this normally of performance more concrete, I should like to submit certain results obtained with the young man in question and with a frank eunuchoid case in whom a dysfunction of the pituitary was the etiological factor. These are presented in parallel columns and the co-incidences and differences are at once apparent. I include also a case of sterility, resulting from a case of orchitis following mumps.

	Age—16		
	Age—34	Age—28	Dys-
	Castrate	Mumps	function
Urine			
Volume	1145	1210	1200
Specific gravity	1.022	1.018	1.018
Abnormal	0	0	0
Total N ₂ grams	10.64	11.80	7.0
Residual N ₂ %	1.6	12.0	7.7
Blood Morphology			
Haemoglobin	90	90	75
Red	5.5	5.1	3.3
White	9.1	6.2	4.2
Lymphocytes	23	35	43
Eosinophiles	4	8	3

Blood Chemistry

N. P. N.	34	27	40
Urea	13	13	12
Uric acid	2.8	—	4.9
Creatinin	2.0	—	1.4
Sugar	85	100	88
P-S-P			
1st hour	37	48	35
2nd hour	21	15	12
Total	58	63	47
Urobilinogen	0	—	+
Adrenalin	0	—	0
Salol	90	—	60
Galactose	30-20	—	10-5
Basal Metabolism	-11	-12	-12
Pulse	58	54	104
Blood Pressure	106/66	94/60	114/68
Temperature	N	96.6	N
Weight	-10	-15	-23
Vital Capacity	-4	+14	-40

Comment may well be made on the fact that emphasis in the foregoing pages is laid on the thyroid, pituitary and gonad to the exclusion of a relatively large number of foeti to which have been granted an endocrine existence. As the result of our work we recognize, at the present time, the three glands mentioned above together with the adrenal, as four highly important organs of endocrine activity. Less is said of the adrenal in my discussion because frankly I have had opportunity of seeing but very few genuine adrenal cases. An adrenal diagnosis can only be reached, at the present time, when the three other principal endocrine units can be eliminated. The endocrine activity of the pancreas forms an independent chapter by itself. In the same way the function of the parathyroids is sharply differentiated, and again it has been my privilege to see but few cases in which parathyroid aberration could be regarded as a possible etiological factor. Of the other endocrine entities the evidence supporting their claims to internal secretory distinction is very meager. Both the pineal and the thymus would seem to manifest an endocrine activity only in early life, if at all. The weight laid in a recent cause célèbre on the presence of a calcified pineal is interesting in the light of my own records with X-ray evidence of possibly fifty cases of this anomaly without any abnormality demonstrable by a searching neurological examination. In fact the calcified pineal individuals are among the sanest and most wholesome of those with whom I am called upon to deal.

In conclusion and reverting for a moment to my thesis, where physical examination, medical history or laboratory evidence demonstrates a failure of testicular activity, it is possible by means of this analysis to allocate the focus of disturbance among the several endocrine units. Primary gonad failures in the male are rare in my experience. A case of hypergonadism in either sex I have never seen. It must be remembered further that the exocrine function of the gland and its internal secretory activity are related by a common geography but are not necessarily mutually interdependent. In the

ovary, where manifestations are more striking than with the testicle, we have amenorrhoeas with normal endocrine ovarian function and equally primary hypoovarianism with an entirely normal menstrual function.

My colleague, Dr. Lawrence, who was to present the second paper, much to his regret is unable to be with you tonight. In his absence I will read you the brief paper that he has prepared with apology for my inadequacy properly to present his phase of the subject.

A CRITICAL STUDY OF ENDOCRINE THERAPY IN GONAD FAILURE IN THE MALE*

BY CHARLES LAWRENCE, M.D.

A critical study of the evidence concerning the value of endocrine therapy of gonadal failure in man involves the digestion of such an enormous amount of poorly prepared material that a certain amount of mental nausea results. Nowhere in medical literature is there such a mass of conflicting conclusions, based on so little adequate proof. The only carefully controlled experiments which are found deal with frogs, birds, and only rarely mammals, and a careful search of the literature fails to disclose an adequate series of properly controlled observations on human beings.

At the outset of this study, therefore, it must be recognized that there are no definitely accepted facts concerning the results of endocrine therapy in conditions due to gonadal failure in man, and that it is by no means proven that the results of experiments on birds and lower animals can be applied successfully to the human problem.

Therefore since this paper is concerned only with the question of the therapy of gonadal failure in man, the experiments on animals, interesting and suggestive though they are, will not be discussed.

Our knowledge of the function of the human male gonad is derived primarily from observations on eunuchs and cases of cryptorchidism. And these observations do little to throw light on the endocrine function of the gonad. For example, castration produces widely differing effects in individuals, causing adiposity and arrest of growth in some, and slenderness with apparent stimulation of growth in others. Its one constant definite effect is the production of sterility—and that through destruction of external, not internal, secretion. The effect of ablation of the endocrine function of the gonad is to arrest differentiation of sexually neutral tissue, and the results of such arrest vary markedly with the age at which castration is performed. If the gonads be removed before puberty, the development of secondary sex characteristics is imperfect—if performed in adult life its effect upon the already developed

*From the Evans Memorial, Boston.

characteristics is to cause regression of greater or less degree.

Cryptorchidism affects the individual in a manner similar to castration, but to a degree dependent upon the amount of interference with endocrine function which is present in the individual case. The difference between the castrate and the cryptorchid is fairly ascribable to the fact that in the latter condition there is seldom total suppression of the endocrine function of the gonad.

From such observations, the conclusion is justified that in the human male the gonad has an endocrine function, which is chiefly concerned with the development of secondary sex characteristics upon which it has a stimulating effect. That it is primarily responsible for the changes in bodily and psychic activity has not been demonstrated. In many of the cases of eunuchoidism, the gonadal failure is a result of some other endocrine malfunction, and is, therefore, an index of, not a cause of, arrested bodily and mental development.

A direct effect of the internal secretion on the nervous system and the psychic state of the individual likewise remains to be proved. Certainly there is a change in the personality following castration, and a peculiar lack of virility is often present in cryptorchiditic and eunuchoid individuals. But whether this is the result of a hormone lack, or due to the depressing knowledge that the power of procreation is denied to them is not proven. That power is man's most prized possession, and its loss must have a marked effect upon his psychic state. Since, however, there is an alteration of the personality associated with gonadal loss or hypofunction many enthusiastic endocrinologists(?) ascribe the former to the latter with cheerful unconcern.

By a similar process of unreasoning, the changes occurring during senescence are ascribed to the failure to gonadal internal secretion. Arteriosclerosis, asthenia, failure of vision, enlargement of the prostate, graying of the hair, etc., etc., have all been ascribed to gonadal hypofunction and maltreated accordingly. It is perfectly true that both internal and external secretion of the testicle gradually grow less and finally cease as senescence develops, but the same thing holds true of every other bodily activity. And again there is no evidence worth the name that the gonadal failure is the cause rather than the result of senescence. Until a definite internal secretion has been isolated from the testicle and identified, such evidence will not be forthcoming. At present there is no evidence that the male gonad has any effect upon the general bodily metabolism other than a slight one upon the basal metabolic rate.

From this brief summary, it appears that the only demonstrable effect of gonadal internal secretion in the male is that upon secondary sex characteristics. It has not been shown that its

failure is the cause of senescence, or of psychological alterations. The indications for substitutive therapy would therefore be limited to two conditions. It might logically be employed to prevent changes occurring after complete castration, or to bring about normal development in eunuchoid individuals provided it could be demonstrated that the gonadal hypofunction was primary and not secondary.

If substitutive gonadal therapy is indicated there are three methods of applying it.

First by administering tablets of dried extract of animal testicles by mouth. As far as can be ascertained from the literature there is no proof that this method of administration has any demonstrable effect other than a possible psychological one, and my own very limited observation concurs. Whether the dried extracts are inert, or whether the dosage used is too small, is not known. Until the dosage can be determined in functional units rather than grains of weight, this question must remain unsettled.

The second method of administering testicular extract consists in the injection under the skin of fresh testicular substance. The results of one thousand such injections or, as he terms them, implantations, have been reported by Stanley. The subjects were almost all prisoners in the California State Prison. The material injected was strips of testicles of goats, rams, boars, or deer. Injection was made with a pressure syringe, underneath the skin of the abdomen. The author reports that there were comparatively few sloughs. The author's analysis of cases is interesting. The conditions treated were as follows:

	Total Cases	Not Benefited	Benefited
General asthenia	336	305	31
Rheumatism	58	49	9
Acne vulgaris	66	54	12
Neurasthenia	56	33	23
Poor vision	41	32	9
Asthma	21	18	3
Tuberculosis	17	10	7
Seminal	34	27	7
Sex lassitude	95	81	14
Impotence	19	12	7
Psychopathic inferiority	8		8
Epilepsy	5	3	2
Dementia praecox	8	1	7
Paranoia	3	2	1
Diabetes	4	3	1
Locomotor-ataxia	3	3	
Drug addicts	32		
Dead	11		
Unclassified	28		
No report	30		

Benefit was determined by the patient's statement. In no case, even those of poor vision, were any objective findings reported. If

the patients' statements be accepted, the results of this form of organotherapy are extraordinarily successful, and all men should have a "shot" now and then. But it requires a finer faith in human nature than most of us possess to accept the unsupported statement of a convict as scientific proof. The article is however of interest as an example of the loose method of thought which seems to be characteristic of endocrinological research. I cannot find in the literature any convincing reports of the value of this method of treatment in cases in which it is indicated.

The third method employed in the treatment of real or supposed gonad failure in the male is the transplantation of part or all of the testicle. Both heterogeneous and heterologous grafts have been made. Here again no conclusions can be reached which are of great practical value in determining the advisability of such measures in any individual case. There is no question but that in birds and lower animals testicular implantation has very definite effects, and that these effects are due to the endocrine activity of the transplants. In the human male, however, transplants from lower animals do not persist, and transplants of heterologous material are yet too few to furnish convincing evidence. Such results as are reported are suggestive of future accomplishment, but do not establish the value of the treatment.

CONCLUSIONS

1. The clinical picture produced by ablation or depression of the endocrine function of the male gonad is not constant. The variations are probably due largely to the age at which the failure occurs.

2. Eunuchoid states are frequently due to secondary gonad failure, which is a result of some other endocrine dysfunction, notably pituitary. The treatment of such conditions by use of testicular extracts or implants cannot be expected to give good results. Therefore every patient showing eunuchoid symptoms should be carefully examined for evidences of other endocrine disease before testicular organotherapy is advised. If such treatment is indicated it is best obtained by implantation of human testicular substance.

3. The treatment of such conditions as senescence, "sex lassitude," dementia praecox, epilepsy, or general asthenia by gonadal extracts has no logical basis and is not at present justifiable.

4. There is no definite evidence that the use of testicular extract in tablet form has any specific effect in man.

5. Endocrine therapy of gonad failure in the human male cannot become an established form of treatment until the effect of such failure upon bodily processes has been determined by objective methods, and the value of therapy proven by demonstrating its effects in the same

way. At present the conditions for which organotherapy is indicated are limited to the results of castration and certain eunuchoid conditions.

DISCUSSION

DR. CUNNINGHAM: I am sure we have all enjoyed this interesting and instructive paper of Dr. Rowe's.

DR. GEO. G. SMITH: I think that such work as Dr. Rowe and Dr. Lawrence have been doing is extremely necessary at this present time to put this whole question on a sound basis. Of course, there has been a great deal written about rejuvenation, and Steinach's operation of partial vasectomy has been used to contribute to man's welfare. There is according to Macht and Teagarden of Johns Hopkins an apparently temporary stimulation of the well-being of rats when the vas is ligated and partially removed. As pointed out by Aslund, this may be true in the case of rodents in which the testicle is able to slide up and down into the peritoneal cavity. Where this operation has been of benefit it has been due to the fact that the testicle has become cryptorchid with a decrease in the spermatogenic function and an increase in the interstitial tissue. Oslund concludes that vaso-ligation is followed by no definite change in the testicle in animals in which the inguinal canal is closed, and, of course, that includes man. It seems to me that Steinach's operation can be frowned upon though some of the clinical results have been good.

I think the situation with regard to testicle implantation is different because, as Dr. Rowe and Dr. Lawrence have said, it has been definitely shown both in small and in large animals that testicular implantation when properly accomplished is definitely productive of results. I was talking with Professor Bovie, and he said that he and Dr. Clarence Little had done work with testicular implantations on mice, and after the castration of a mouse and the implantation of a gonad from the opposite sex, the mouse would develop a different characteristic of the facial bones.

I happen to have here a monograph of Voronoff on "Greffe Animale" which is worth reading. I would like to ask what Dr. Rowe thinks of his work. Judging from the literature which Voronoff has put out and which he substantiates by photographs, it would seem definitely established that testicular implantation can be done successfully when it is done from an animal of one species to an animal of the same species. He has pictures of a ram that had a testicle from a young ram implanted with remarkably good results. Then the implanted testicle was removed, and the ram showed signs of senescence again. That has been shown by other observers than Voronoff. Such work has been done in Brazil on bulls which have been rejuvenated. In the field of

animal industry there is a great future for prolonging the fertility of stallions and bulls.

In the case of man, Thorek of Chicago has shown that there are only two or three species of the large ape which are homogeneous enough with man that their testicles can live when engrafted into human environment, and it is difficult to get testicles from human beings except in the case of suicides or homicides.

I do not feel that this is entirely bunk, for when a man has been deprived of his testicles through disease or faulty development it is reasonable to expect beneficial results if living grafts can be obtained, but it seems that it is hardly possible that a man with hardened arteries and other degenerative changes can be rejuvenated by glands.

As to the technique—Voronoff splits the testicle into four parts, takes off the epididymis, penetrates the tunical albuginea and then sutures these four pieces in the cellular tissue which is outside the tunica vaginalis.

Thorek in his technique implants the entire testicle which has had pieces cut out of the albuginea so that vascularization is made easy and drops the testicle into the retrorenal space where there is free blood supply. In necropsies on monkeys it has been shown that these grafts were vascularized and the spermatic tubes degenerated, but the interstitial cells were in a good state of preservation.

DR. QUINBY: Since Dr. Smith seems to be in such sincere accord with the views and results expressed in this monograph of Voronoff, I cannot resist a word of protest. If we were to believe all the assertions made by this author we would soon have to believe that black is white.

Think for a moment of all the clinical and experimental well-controlled work which has been done on the transplantation of organs from one individual to another; and all with no success. We know, for instance, that a heterogeneous skin-graft is never successful. Skin from you won't grow on me, or from me on you. Such attempts have been made time and again over a long period of years. Or take parenchymatosus organs: I recall the attempt many years ago of Payr to transplant the thyroid of another person into the spleen or bone marrow ofcretins, followed by no result. Or consider the more recent work of Carrel who by direct vascular suture replaced the kidney of an animal by that from another; again always with failure of the transplanted organ to grow. There are many instances all through the literature of such attempts, with all sorts of organs and tissues, but in time all have gone into the discard.

Now with regard to the transplantation of gonads in the lower animals. Voronoff reports results which seem strikingly brilliant, but which I am convinced are either complete prevarication, or at best but transient. It is true

that the testicle of a guinea pig transplanted into another animal seems to cause some temporary changes if done in the case of animals very young and of the same litter; but, again the effects are fleeting and disappear with the absorption of the transplant. Voronoff's tale about the goats and bulls, etc., I give no credence whatever. Even less foundation is there for all the talk of "monkey glands" and such like transplants, so prevalent in the daily press a short time ago. Even ligation of the vas has no real effect in either man or animals.

So, until there be found some explanation of the underlying biological causes of individuality in man and animals, we cannot expect to be able to transplant organs or portions thereof with success.

DR. ALLAN W. ROWE (closing): Dr. Quinby has expressed my feelings in regard to the Voronoff experiments far more happily than I myself could have done. There have been no objective findings so far as I know in any of the experiments. In those carried out with man, at least, the evaluation of change has been on wholly subjective evidence. With animal experiments, as you all know, a vast number of observations have been made. Frankly, if you select your animal judiciously you can get any series of characteristic changes that you desire. With certain species transplantation of ovary or testis produces no effect on the secondary sex characteristics. With other animals, such as the guinea pig, one can produce definite recessive changes. On the clinical side I do not feel that I am competent to express an opinion on the value of transplantation. As one reads the literature, however, one is impressed with the complete lack of objective findings in the majority of the cases reported. In Voronoff's animal experiments I must confess my utter ignorance. I would emphasize, however, that the results of animal experimentation must be translated with the utmost caution into terms of human experience. Man differs too widely in many of his essential metabolic processes from even the other mammalia to permit of any sweeping generalizations.

To answer Dr. Cunningham's question, I think it is a matter of doubt whether the adult testicle has an internal secretion. The ovary has. That has been demonstrated objectively by laboratory findings and by carefully controlled clinical studies. With the testicle the only concrete evidence that we get after their ablation is a lowering of the basal metabolic rate. None of the other functions are apparently changed. This would not be true of children castrated before puberty. How far the pineal may play a part, we do not know. Our evidence would be that this gland also at least in adult years enjoys greatly overrated significance. Within my observation the male castrate of adult years is apparently unaffected by

the so-called internal secretion of the organ. One must always remember that the endocrine and exocrine functions are by no means necessarily interrelated. We have seen many cases of ovarian failure. On the one hand we may have a true hypogonadism with a perfectly normal menstrual function, and equally one may have a case of amenorrhea without any evidence of a failure of the internal secretory activity of the ovary. Naturally there are also many cases in which both the exocrine and endocrine functions are affected. Gonad failure in many instances is resultant and not causative and depends upon a dysfunction of some other endocrine focus. This is one of the reasons why a pluriglandular therapy so frequently fails and may even be positively harmful. In giving enough of the material which is lacking you may give a very large amount—an excessive amount—of some other thing with which the body is already amply supplied. We have all seen cases which have been over-thyroidized.

With regard to diabetes insipidus, I have had several cases sent to me for this condition but they have failed to demonstrate on arrival. One woman came in with a history of voiding never less than three gallons. Her average amount was 1500 cu. cm. per day during her week's stay in the Hospital. I did have one case in which there was a pituitary element but Houssay's experiments would seem to show that the pituitary is not necessarily involved but that some portion of the brain contiguous to it is at fault. There may be coincidentally a pituitary disturbance as well. Some results along another line may be suggestive as to a reason for the efficacy of pituitary medication in this condition. We have had a large number of cases of pituitary dysfunction in which one lobe has been overactive and the other underactive. In

many of these the posterior lobe has been at fault and with its overactivity there has been an apparent hypertrophy producing pressure symptoms inducing a partial blindness. The administration of anterior lobe extract has apparently caused a recession of the posterior lobe enlargement so that the pressure symptoms disappear and the vision clears up. One case in particular which has already been reported was that of a young girl with practically extinction of vision in one eye and about half the normal vision in the other. On anterior lobe medication her vision has been completely restored. There can be no question that the glandular extracts exercise a very definite influence in this particular sense. A factor of complication lies in the fact that overactivities are frequently followed by underactivities. Pituitary conditions are still further complicated by the two lobes. Many of these conditions are of the dysfunction type with one lobe overactive and the other underactive. Many cases are seen in a transition state. In a number of thyroid cases which we have seen, the time of first contact has been during such a period. Another type of thyroid failure which we have learned to recognize violates all of the accepted clinical signs but is nevertheless a true hypothyroidism. They gain weight on thyroid extract.

Answering Dr. Saunders' question, I don't think we did anything with that boy except to cheer him up a little bit. He apparently has full power of erection. As you all know, there is a peculiar Russian sect with whom an important religious rite consists in self-mutilization of varying degrees of severity. There are many records extant in the literature showing that males in whom there has been complete ablation of the testicles retain the erectile power and indulge in intercourse of a sort for many years after the operation.

CONGENITAL TERATOMA OF THE ORBIT

BY J. J. CORBETT, M.D., BOSTON, MASS.

TERATOMAS of the orbit are sufficiently rare to deserve being placed on record. This paper presents the complete account of a typical example of this kind of tumor.

Hippel¹ received from Professor Marwedel in Aachen an orbital tumor which he removed from a child five days old. This tumor produced a high grade of exophthalmus. The lids did not cover the eye, the cornea was cloudy. The family history was negative and the child showed no other anomalous condition. Sectioning of the eye showed numerous small and large cysts filled with fluid; also numerous transparent tissue islands which proved to be hyaline cartilage. The tumor consisted of all three germ layers, and the tissues on the whole showed embryonic characteristics.

The picture that the cornea presented resem-

bled that of a case described as Keratitis Neuroparalytica. The literature showed at the time of the writing in 1906, only one similar case, that of Weigert and Bröer² reported twenty-nine years before.

The author states that the above described growth arose during fetal life, but how long before birth the growing process began is difficult to state. Similar cases seem to show that these tumors can grow with enormous rapidity.

The histological diagnosis made by Hippel was Congenital Teratoma of the Orbit.

Adami³ defines a teratoma as a tumor derived from cells capable of giving rise to all tissues of the individual. Ewing⁴ states that teratomas occur in the orbit usually as growths present at birth. Their analysis reveals as a rule derivatives from three germinal layers, but it may

be possible to identify only two layers. The developments of rudimentary organs are not pronounced, but segments of intestine, ocular

cups, and portions of central nervous system have been identified. Monogerminal mixed tumors of the orbit are illustrated by the case



FIG. 1. Photograph of infant showing tumor, with eye-ball in center of anterior surface, projecting from right orbit.

FIG. 2. Cross section of tumor, with eye-ball at upper end, showing cystic and solid portions.

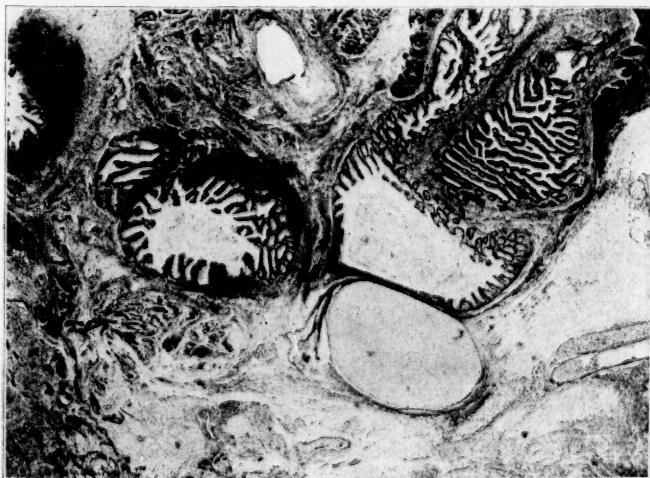


FIG. 3. Section from solid part containing cartilage, epithelium-lined cavities resembling intestine, smooth and striated muscle tissue, etc. $\times 20$.

of Weigert and Bröer which contained fat, bone, cartilage, and cysts lined by cylindrical ciliated or squamous epithelium.

The tumor described in this case was in a well developed and nourished. There was a large mass protruding from the right orbit.

This mass, on palpation, showed no fluctuation. No impulse was transmitted from the



FIG. 4. Another section containing bone, much embryonic striated muscle tissue, glia tissue, etc. $\times 40$.

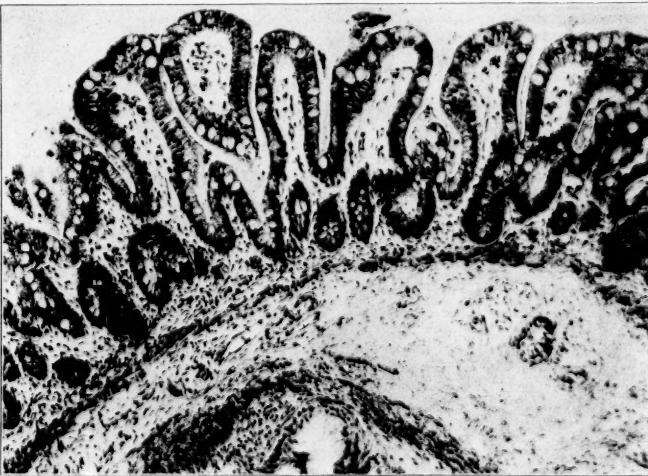


FIG. 5. Intestinal tissue with a thin layer of smooth muscle tissue (mucosae) beneath. Many of the epithelial cells are of the goblet type. $\times 125$.

baby girl, born at the Boston City Hospital on March 22, 1924. The weight of the baby at birth was 6 lb. 12 oz. Physical examination of the baby at the time of birth showed it to be a tumor to the anterior fontanelle. Numerous vessels were in evidence along the surface of the growth, and centrally located in front was a well defined eye. Otherwise, the physical

examination showed the baby to be normal.

On March 24, 1924, the tumor mass was punctured. When the needle was moved about inside the mass it seemed as though there were some hard tissue present. As a result of the puncture, 20 c.c. of yellow fluid were obtained. Cytologic examination of the fluid revealed the following: "Yellow pigment is bilirubin, probably from old hemorrhage, provided *uterus neonatorum* is not present. Because of the relatively low protein content of the fluid, it may resemble cerebro-spinal fluid or aqueous humor than serum. Quantitative test for bilirubin shows 0.9 mgm. per 100 c.c. of fluid."

could be felt, was clamped with a hemostat, and severed anterior to the clamp. The tumor mass was then easily shelled out. As the operation progressed, two nicks were made into the tumor and a thick yellow semi-gelatinous fluid began to flow. This led the operator to think that he was dealing with a mass of multilocular cystic formation, in as much as there was no complete collapse of the growth, even under pressure, when these wounds were made into the substance.

Digital examination of the orbit walls after removal of the tumor showed them to be intact and smooth throughout. A wick was inserted,

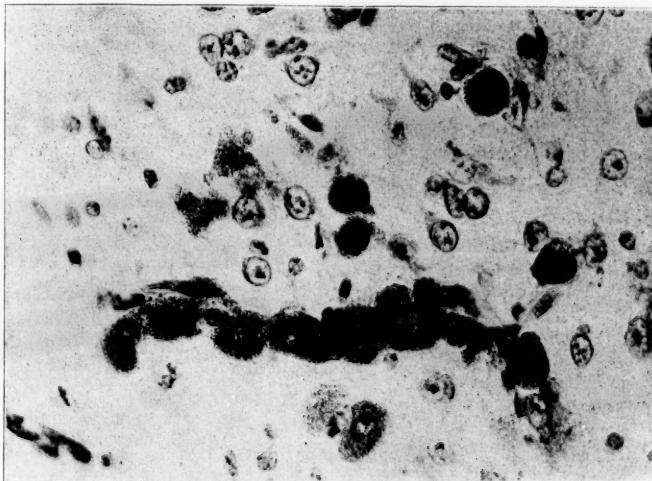


FIG. 6. Pigment cells embedded in delicate neuroglia tissue. $\times 560$.

X-RAY REPORT

Soft tissue tumor mass protuding from anterior portion of skull.

Various diagnoses were made previous to operation, namely, Prolapse of the Orbit, Myelo-Meningocele, and Sarcoma. Operation was advised by the Ophthalmic Service, and through the courtesy of Dr. Robert Green of the Gynecological Service, the writer removed the tumor on March 28, 1924.

OPERATION

Incision was made at, and completely around the limbus which could be easily identified. Conjunctiva was dissected back until the insertions of the recti muscles were reached. The recti muscles were picked up separately and severed; the dissection was continued back and completely around the tumor until the posterior pole was reached. At this point, the optic nerve

conjunctiva was replaced, and a bandage applied over the eye. The tumor was sent to the pathological department for examination.

The patient made a good recovery from the operation and the general condition was good for about six days. On the tenth day the baby appeared to be losing weight rapidly and died on the twelfth day after the operation.

PATHOLOGICAL REPORT

Gross Appearance. The specimen forms a somewhat flattened and slightly lobulated spheroid mass measuring 8.3 by 6.1 x 4.3 cm. It is covered anteriorly by conjunctiva and the eye ball is sunk into its surface. On the sides are the remains of cut muscle fibers. The tumor contains three cysts, two large and one small, all filled with bloody fluid. The firmer portion of the tumor is whitish, glistening and friable, and contains smaller cysts with thin, smooth, tough walls. A rounded papillary mass, 1 cm.

in diameter, projects into one of the cysts; on section it is yellowish and glistening.

Microscopically the tumor shows a variety of tissues combined in a very disorderly manner. Neuroglia tissue predominates in most places but in addition there are epithelial structures, bone, cartilage, smooth and striated muscle fibers, fat, connective tissue and pigment cells.

The epithelial cells for the most part line cavities of various sizes and occur in a single layer or as a stratified epithelium and are often ciliated. Occasionally the cells present a typical goblet appearance. Some of the cavities are surrounded by a thin layer of smooth mus-

formed by proliferation of the fertilized ovum. The earliest cells are totipotent, and if separated from each other may give rise to identical homologous twins, triplets, etc. The later cells, while multipotent, are less capable of forming all the various tissues of the body. If a blastomere, or one of its early derivatives, becomes displaced from its normal position, but is included in a growing embryo, it may at any time develop into a mixed tumor of greater or less complexity. It seems probable that mixed tumors of the orbit arise in this way by displacement of a blastomere or an early derivative from it.

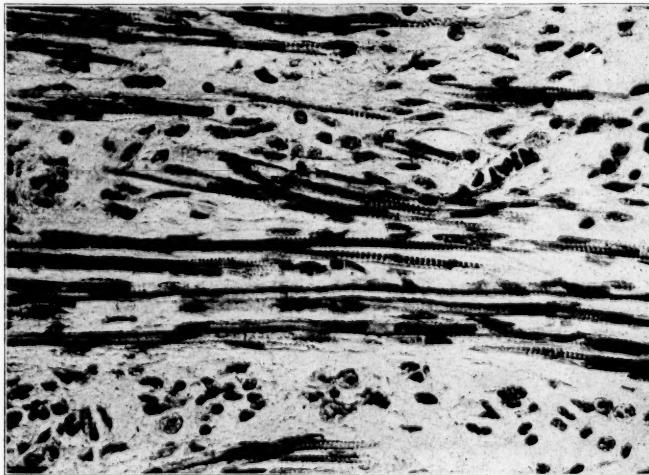


FIG. 7. Embryonic skeletal muscle fibers surrounded by delicate neuroglia tissue. $\times 400$.

ele (a muscularis mucosae) and have glands opening off them, like the colon, or papillary projections into them like the small intestine. In a few places typical pavement epithelium is present with the surface layer undergoing cornification and occasionally filling up the lumen.

The neuroglia tissue contains here and there cysts lined with ependymal cells which are often ciliated. The glia fibrils are numerous and usually delicate in structure.

Embryonic striated muscle cells are present in considerable numbers and are frequently intimately mixed in with the neuroglia tissue.

The other tissue elements (bone, cartilage and fat cells) occur in relatively small amounts and pigment cells, full of brown granules, are found in only one focus.

Diagnosis: Teratoma.

The most generally accepted theory of the origin of Teratomas, exclusive of those found in the ovary and testicle, is that they arise from displaced blastomeres. These are the first cells

The writer is indebted to Dr. J. R. Eisaman for the picture of the infant, and to his House Surgeon, Dr. Fred Heimlich, for his coöperation in preparing the case records. The writer desires particularly to thank Dr. F. B. Mallory of the Pathological Laboratory for the other illustrations and for the pathological description of the tumor.

REFERENCES

- Hippel: Weitere Beiträge für Kenntnis seltener Missbildungen. A. Von Graefe's Archives für Ophthalmologie, 1906.
- Weigert-Bräuer: Virchow's Archives, p. 69.
- Adami: P. 657.
- Ewing: "Neoplastic Diseases," p. 947.

UNITED STATES GOVERNMENT MAKES HUGE PROFITS OUT OF NARCOTIC PROBLEM

According to official reports, the Federal government collected through narcotic taxes for last year \$1,057,066.33, and it cost \$709,790.66 to administer the law. Therefore, our government got a profit out of its narcotic business of more than \$300,000. Many doctors would like to know if it is because of the profits in the business that the government still refuses to modify the war tax on doctors.—*California and Western Medicine*.

WINTER ITCH (PRURITIS HIEMALIS)

BY WILLIAM J. MACDONALD, M. D.

Chief, Dept. of Dermatology and Syphilology, Carney Hospital; Assistant, Dept. of Syphilis, Mass. Gen. Hosp.; Consultant Dermatologist, Cambridge City Hospital

WINTER ITCH has come under my notice more than usual within the past few months. It is so resistant to treatment, so maddeningly itchy, and so apparently prevalent, that I am bringing the matter to the notice of those who would cure or be cured.

It is quite possible to fail to recognize the disease and call it Scabies. This has happened on several occasions at our clinics. But when the sulphur treatment fails to relieve the patient, he generally applies for relief elsewhere.

The outstanding diagnostic signs of Winter Itch are:

- (1) Its occurrence in adults.
- (2) Its failure to respond to the usual anti-parasitic and anti-pruritic applications.
- (3) Nocturnal itching.
- (4) Its inception usually in the Fall.

Practically every case I have seen has laid stress on its viciousness at night when the clothes are removed. One patient was so tormented that he expressed a desire to end his life.

It appears to favour the legs most particularly. Generally the sufferer shows an eruption covering the whole body, but, except in two cases, sparing the head and face. The eruption on the body is dry, devoid of primary lesions, but irritated secondarily by scratching. As a result there are usually some slight thickening, numerous excoriations, hyperaemic areas, and marked scaliness. One cannot detect the typical hall marks of Scabies, and it is not possible to misdiagnose the case, if the interdigital furrows are carefully examined, and the family history investigated. As stated above, the disease attacks the legs more violently than elsewhere. These parts will show the secondary signs resulting from continued scratching, namely excoriations, scales, reddening of the skin, and infected follicles. When the remainder of the body clears up, the legs will still itch to some degree. The neck, in one patient, was the part most violently attacked. The extremities alone may be affected, and I do not doubt that many sufferers so afflicted fail to see a physician. It is the generalized cases that come under our notice.

Text books give this disease scant attention.

We are told it occurs in adults, and in the winter time. All the cases I have seen have been adults—males as a rule.

Causation. Apparently the rigours of winter, their drying effect on the skin, and the possession of poor sudoriparous glands are to be held accountable for the disease.

Treatment. In bringing up the subject of Pruritis Hiemalis, my intention is not to speak of the wonders of carbolic acid, menthol, tar or the other anti-pruritic drugs. I have tried them,

and found their use limited. Sometimes they relieve the patient for a few hours—poor satisfaction for the average man or woman. Occasionally an application will be almost miraculously beneficial at first, but violently irritating subsequently. Every doctor knows what drugs relieve itch, and of course can prescribe them. But what I do wish to emphasize is that rapid relief follows the use of the Ultra-violet light, and X-Ray. It is not always possible to take advantage of these two modalities, but it is well to know that they will give the sufferer prolonged relief and cure him as a rule in two weeks. Untreated this disease will last indefinitely.

Mode of Application

(1) The chest, back, lower limbs anterior and posterior, receive an initial dose of 5 minutes at a distance of fifteen inches. Two days later the time is advanced to seven minutes. Subsequent applications are stronger and cause an artificial erythema with sealing.

(2) The lower limbs (anterior and posterior) receive in addition a fractional X-Ray dose. This is repeated seven days later. I reserve the X-Ray for those parts associated with marked secondary lesions.

Patients with this disease generally derive as much relief from the itching from olive oil as from any more complicated ointments. It would therefore be reasonable to carbolize the olive oil to the extent of one half per cent.

The following example is typical of all the other cases that have come under my notice.

F. P. R. Male; aged 42; married; occupation—clothesman;

Private patient referred through courtesy of Dr. C. E. Mongan.

Diagnosis—Pruritis Hiemalis.

Duration of illness—2 months.

History.—The eruption commenced on the legs, and gradually extended upwards soon covering the whole body. It is a dry scaly excoriated eruption, violently itchy, nocturnal in character. Wassermann—negative.

Treatment

Ultra-violet light—generalized.

X-Ray—Lower limbs.

Result—Recovery in three treatments.

Summary

(1) Winter itch may be diagnosed as Scabies. Attention and care will obviate this.

(2) The disease is violently itchy, nocturnal in character, often generalized, most marked on the lower limbs, and characterized by secondary skin lesions.

(3) Ultra-violet light and X-Ray are the best methods for treating the disease.

(4) Ointments are usually disappointing, and a mildly carbolized olive oil is as efficient as almost any other anti-pruritic application.

**Case Records
of the
Massachusetts General Hospital**

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY
RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 11111

MEDICAL DEPARTMENT

An American housewife of thirty-five entered September 21. She gave a history of measles in childhood, two miscarriages, malaria at thirty, rheumatism at thirty-two,—soreness of the knees and ankles without redness and swelling. She was in the habit of taking whisky about once a week. She passed the menopause eight months before admission. In April, five months before admission, she was ill in bed six weeks with an attack like the present one. After being up and about for two months she was laid up again for six weeks. After this she was fairly comfortable until two weeks before admission, when her feet began to swell, more at night, and she began to have cough with very little sputum until the past few days. The sputum was thick and yellow, once blood-tinged. She had much dyspnea and palpitation and could not sleep at night because of nervousness.

Examination showed a well nourished woman with very cyanotic and mottled skin, cyanotic lips, and frequent dry cough, lying flat without discomfort. The apex impulse of the heart was seen and felt in the fifth space in the anterior axillary line, 14 cm. to the left of the midsternum, 6.5 cm. outside the nipple line, corresponding to the left border of dullness. The right border of dullness was 5.5 cm. to the right. The heart was fibrillating, the action rapid and very irregular in force and rhythm. A systolic murmur was heard all over the precordia and in the axilla, where it was musical. A presystolic murmur was heard at the apex, loudest just inside the nipple line, where a presystolic thrill was palpable. The pulmonic second sound was slightly accentuated. The pulses were irregular, only about a third of the beats reaching the wrist. The volume was variable. The artery walls were normal. The systolic blood pressure was 130. The lungs showed slight dullness below the lower angle of the scapulae. The abdomen was rather prominent, with diastasis of the recti and linea albicans. The liver dullness extended from the sixth rib to 10 cm. below the costal margin, where the edge was felt on a line with the umbilicus. The liver pulsated. There

was moderate edema of the legs and slight edema of the thighs. The pupils and reflexes were normal. The temperature was 96.1° at admission, afterwards normal, the pulse 60 to 81, the respirations 20 to 34. The urinary output was 5 to 15 ounces, the specific gravity 1.022. At the single examination there was a very slight trace of albumin and the sediment showed rare red cells. The blood was normal.

September 23 ascites was demonstrated which was not found at entrance. The left border of cardiac dullness was two cm. nearer the median line than at admission. The next day one thousandth of a gram of strophanthin was given intravenously. The heart action was much stronger and steadier for a few hours. The next morning the heart showed alternating strong and weak beats. Only the forcible beats could be felt at the wrist. One thousandth of a gram of strophanthin was given intravenously again with transient good effect similar to that of the day before. September 26 one thousandth of a gram was given again. Ten minutes after the injection the patient was in good condition. A few minutes later she was very cyanotic, breathing heavily. Twenty-eight minutes after the injection she died.

DISCUSSION

BY DR. RICHARD C. CABOT

NOTES ON THE HISTORY

1. This patient came here at thirty-five years. That is notably early for the menopause unless some operation was done. In view of the history my guess is that she stopped menstruating three months before the first attack by reason of the same disease. It was not the menopause but was the first indication or threatening of the disease which may come to light as we go on.

2. As we imagine ourselves taking the history and examining the woman, what leads have we before the physical examination? In the first place, she has had rheumatism; in the second place, she has had symptoms suggesting heart disease. We start the physical examination, therefore, with the presumption that we may find something in this patient's heart as the result of her rheumatism and as the explanation of her swollen feet, palpitation, short breath and nervousness.

NOTES ON THE PHYSICAL EXAMINATION

1. The heart was enormously enlarged, unless it was pushed over, which we shall find by examination of the lungs on the other side. The right border of dullness shows that it was not pushed over; therefore we were right in the first guess, that it is an enormously enlarged heart.

2. There is edema of the lungs and of the liver.
3. A very small proportion of the heart beats came to the wrist, so this pulse record is worthless.
4. There is no evidence of nephritis or of anything more than passive congestion in the kidney.

5. The blood was normal.

6. One thousandth of a gram of strophanthin is too large a dose for the first time. A milligram is a perfectly proper dose when one knows his patient. But I have seen a patient killed, as I believe, by a milligram. Half a milligram is a proper dose to begin with, before we know the patient.

Twenty-eight minutes after the last dose she died. I think it is quite possible that she died because of it. She was given a third injection of milligram within a fairly short time, and death followed quickly, though she had been in good condition ten minutes after the injection.

DIFFERENTIAL DIAGNOSIS

We have a rheumatic heart. Rheumatic hearts generally mean mitral stenosis. We have plenty of evidence of this in the presystolic thrill and presystolic murmur, the accentuated second sound, and the enlarged heart. We have no reason to doubt that diagnosis. It may be wrong, but we have the facts on which we ordinarily rest when we make it.

But the heart is too large for that diagnosis alone. It is an enormous heart. So the chances are there is something else here besides the mitral stenosis. When we have said that we have said all that we can. We have no way to identify the things that may complicate mitral stenosis in a case like this. It may be tricuspid stenosis. We cannot identify it. It may be adherent pericardium. We cannot identify that. So all we can say is, this patient should have mitral stenosis plus some other disease either of the valves or the pericardium which further embarrasses the heart action.

We see that this is not the first break in compensation. She has had a number of attacks before, and there is a good chance that she would have died anyway, even if there had not been (as I suspect) an overdose of strophanthin. She has no fever, we notice. The temperature is subnormal, then normal. The question arises as to the possibility of an acute endocarditis on top of the chronic process. We have no evidence of it, although this is the type of case where it is often found. It would not surprise me if it were found post-mortem.

What else outside the heart? (1) Passive congestion, and (2) in a case that has gone on as long as this, the chances of a clot in the left auricular appendage are good, and if that is there, probably (3) infarcts in the lungs, spleen,

liver,—some one of those in about that order of frequency. That is as far as I can go.

A PHYSICIAN: What would you expect to find in the pelvis? Do you think we might associate the two miscarriages with the early menopause?

DR. CABOT: We do not know their date, do we?

A PHYSICIAN: No; we should like to know their date, and we should like to know why she has lost in weight.

DR. CABOT: There have been no pelvic complaints, and in the general examination of the abdomen, which very likely did not include the vaginal examination, we have nothing. I should say on the face of the record, which is all we can go on, we should prophesy no pelvic trouble.

I believe that there will be found mitral stenosis, some other lesion either of one of the other valves or of the pericardium; that there will be found a very large heart, over 500 grams; that there will be found passive congestion of all the organs; that there will probably be found a clot in the left auricular appendage, and very possibly from that infarcts of the other organs.

CLINICAL DIAGNOSIS

Mitral stenosis and regurgitation.
Hypertrophy and dilatation of the heart.
Chronic passive congestion.
Digitalis heart block (strophanthin).

DR. RICHARD C. CABOT'S DIAGNOSIS

Chronic endocarditis of the mitral (and other valves?)

Mitral stenosis.
Chronic adhesive pericarditis?
Hypertrophy and dilatation of the heart.
Chronic passive congestion.
Infarcts.

ANATOMICAL DIAGNOSIS

Chronic endocarditis of the mitral, aortic, tricuspid and pulmonary valves, stenosis.
Slight chronic adhesive pericarditis.
Hypertrophy and dilatation of the heart.
Chronic passive congestion.
Hydropericardium.
Hydrothorax.
Ascites.
Anasarca.
Chronic pleuritis.
Chronic perihepatitis and perisplenitis.
Slight arteriosclerosis.

DR. RICHARDSON: We were not permitted to examine the head.

The abdomen was distended. There was a great amount of fluid in the peritoneal cavity. The extremities were swollen and pitted easily—ascites and anasarca. The liver was four fingers below the costal border, not very far down. The diaphragm on the right was at the fifth rib, on

the left at the fifth interspace. Nevertheless the pleural cavities contained a large amount of clear straw-colored fluid—hydrothorax. There were the usual evidences of chronic pleuritis, fibrous adhesions generally.

The trachea and bronchi showed a slightly reddened mucosa and contained a moderate amount of brownish mucus material,—passive congestion. The lungs showed no areas of consolidation, no evidences of pneumonia, but general well-marked chronic passive congestion.

The heart weighed 415 grams,—considerably enlarged for her. The myocardium was twelve mm. on the left, 3 mm. on the right. The heart muscle generally was thick. The cavities were enlarged, the auricles more especially so. The mitral, aortic, tricuspid and pulmonary valves all showed a definite chronic fibrous endocarditis. In the case of the mitral there was a small mass of fibrocalcareous material. The fibrosis appeared as irregular fibrous thickening of the valves and shortening and thickening of the chordae tendineae with consequent marked deformity of the valves and decrease of their circumferences. The mitral circumference was six cm., the aortic four cm., the tricuspid six cm., the pulmonary five and a quarter cm. Those are all decreased, most markedly so the mitral and tricuspid. On this chronic endocarditis basis there were on all the valves minute gray-red granulations which were firm. In one or two places there was some questionable fibrinous material, but all told not enough so that we could definitely state that there was an acute endocarditis. Of course these minute granulations occurring on the valves are very discouraging. If they are definitely firm and tough they of course are at least subacute or chronic. But if they are soft and fibrinous it is reasonable to assume that they are acute. It not infrequently happens however that it is difficult to say, and so it has been called "verrucose endocarditis." The only thing we have to go by is the question of consistence, the character of the material, whether firm or soft, and its relation to the underlying fibrosis. At the time this was not regarded as acute endocarditis.

The liver weighed 1047 grams. That was rather small. The organ showed very well-marked chronic passive congestion, and there were adhesions about it to the diaphragm. The spleen also showed adhesions on the diaphragm. That is, chronic perihepatitis and perisplenitis, without much definite idea as to why. It may be in association with the chronic passive congestion which was present in each of these organs, as there was some increase histologically of the interstitial tissue.

The gall-bladder and pancreas were negative. The spleen weighed 155 grams. The tissue was dark red, firm, elastic, the follicles and trabeculae visible,—a good example of chronic passive congestion.

The kidneys weighed 250 grams. The capsules stripped leaving fairly smooth surfaces, negative cortex. The tissue generally showed passive congestion.

The gastro-intestinal tract showed marked chronic passive congestion.

Between the layers of the pericardium there were membranous fibrous adhesions,—slight chronic adhesive pericarditis.

There was a slight amount of arteriosclerosis, mentioned because this woman was said to be thirty-five years of age.

A typical picture of that condition which is of course rather rarely found, all four valves of the heart affected.

Dr. CABOT: That is about as near as we are going to get for the present. We can hit the mitral, we cannot the others. I am interested in the pericarditis because she had had a very early arteriosclerosis and two miscarriages. I tend to think that meant syphilis.

CASE 11112

DERMATOLOGICAL DEPARTMENT

An Italian grocery clerk of twenty-six entered August 20 for relief of a skin eruption.

F. H. Good.

P. H. Negative except for sore throats twice a year, in the spring and summer, occasionally keeping him in bed for two weeks.

P. I. Two months before admission he noticed some large red tender blotches on his abdomen. During the next six days his whole body became covered with such blotches. After three intravenous treatments of white colorless fluid by his physician the blotches became much redder. Five weeks ago another doctor gave him white pills and a wash. Two weeks ago his throat became sore. It had grown steadily worse. A third doctor gave him magnesium sulphate daily and drops. A blood test was negative. Three days ago red blotches appeared on his face, and his eyes became inflamed. During the illness he had lost ten pounds. His wife had had no eruption.

P. E. Well nourished. Over the face, arms, legs, feet and trunk were many large serpiginous indurated salmon-yellow areas some of the lesions of which were covered by scales. Some isolated lesions showed clear normal skin in the center with as many as two rings of inflamed skin about them. Scaling seemed to be from the center outward. Occasional lesions were so deep that they were covered with crusts, one with a definite scab. Many lesions had clear centers. Mouth. Mild gingivitis. Some pyorrhea. Soft palate, especially the uvula, swollen and inflamed. Right side of the throat showed deep

ulceration with grayish-green membrane covering it and a relatively very small amount of inflammation surrounding it. Left occipital, submaxillary and inguinal glands enlarged and tender. Heart, lungs, abdomen, genitals, extremities and reflexes normal. Pupils normal except for iritis. B.P. 110/60.

T. 99.2°-105.4°. P. 95-160. R. 20-32 until October 22, then gradually increasing to a terminal rise to 50. Amount of urine not recorded, sp. gr. 1.030-1.008, cloudy and alkaline at the last three of nine examinations, a trace to the slight-

outside of skin and mouth. It seems to me there is absorption enough from these lesions to keep the temperature and pulse elevated. Suggest X-ray of teeth and sinuses." August 23. Smear of exudate—mostly polymorphonuclears. No bacteria seen. Culture of nasal secretion. Streptococci, both flasks. Blood culture August 28



PLATE I.

est possible trace of albumin at seven, rare to many leucocytes at four. Blood. Hgb. 80-85%, leucocytes 7,800-3,000, polynuclears 58%-84%, reds 4,000,000, normal at two examinations, considerable variation in size at two, achromia at one of the latter. Two Wassermanns negative. Throat cultures August 21 and 26. Streptococci, both flasks. Smear. No leprosy or other acid-fast bacilli. Dark field August 21. Many short spirillae not typical of *treponema pallida* but resembling Vincent's. No cigar shaped bacilli seen. Throat consultation. "I cannot help you out. The smear does not show enough fusiform and spirillae to make a diagnosis of Vincent's." Surgical consultation. "I do not know what the lesions are. We shall be glad to take sections from the throat and from one of the cutaneous lesions." Medical consultant. "No cause for temperature and pulse elevation found



PLATE II.

negative. Biopsy throat lesion. Inflammatory process without special character.

In spite of hourly gargles with potassium permanganate 1/3000, daily application of chromic acid 3%, and arsphenamin twice a day locally the mouth lesions progressed rapidly, involving almost the entire uvula, the right of the soft palate and part of the nasal mucous membrane. The patient was not so uncomfortable as might have been expected. During the next four days the throat grew rapidly worse. Large sloughs formed to the right of the uvula, half of which was gone by August 28. The soft palate on the

right showed an ulceration which had obliterated a large part of the curtain so that the posterior pharyngeal wall was plainly evident. The lesion progressed in spite of potassium permanganate gargle every two hours, Dakin's solution, half strength, and arsphenamin locally twice a day. Many skin lesions of the erythematous type were replaced by deep vesicles in groups and rows and appeared at the periphery of the erythematous lesions. By August 28 the condition was very much a vesicular process followed by crusting and finally drying up upon an erythematous base which did not itch or burn but was very tender to pressure.

September 2 the throat was remarkably better, the lesions very clear, with little discharge or accumulation. Dakin's solution and arsphenamin locally seemed to have been the most effectual treatment. Two other small papulovesicles had appeared on the soft palate. The penis now showed superficial ulceration and a number of small red papules. Otherwise the skin condition was much the same. The general condition was good in spite of continued fever, which however was considerably lower than a week earlier. September 5 the pulse was slowly rising. September 7 the patient said he had coughed up flecks of blood. Cultures of serum from a ruptured bulla were negative. Next day there were two new small ulcerations on the roof of the mouth. The penis was swollen, possibly from too much Dakin's.

September 17 the skin appeared to be slightly better after an antierysipelas regime.* The two mouth lesions were slightly larger but very superficial. Subjectively the patient was better. This improvement lasted, however, only about a week. Then he began to slip back again. The pulse remained high. The temperature was intermittent. He had two attacks of orthopnea. X-ray showed both lung fields of normal brilliancy throughout. The outline, position and respiratory movements of the diaphragm were normal; nothing remarkable in the midshadow. There were a few dense apparently calcified glands at the lung roots. The spine showed a moderate degree of lateral curvature. No definite pathology was found in the chest.

Up to October 15 the temperature and pulse showed a general downward trend. Many of the crusts came off, leaving white atrophic scars. The throat still showed slight activity. Weekly X-ray treatments were started. October 20 the patient looked and felt better. No new skin lesions had appeared. October 24 pus from an excised lesion of the chest showed a profuse growth of *staphylococcus aureus*. October 30 there was marked bilateral toe drop. Splints were applied to hold the feet dorsoflexed.

The patient grew weaker, had persistent cough with blood-flecked sputum, and became so hoarse

he could not speak above a whisper. The crusted skin lesions became more numerous. The roof of the mouth became covered with papillomatous lesions. The breath was very foul. The lungs were full of râles, but there was no evidence of consolidation. November 9 after a few seconds of orthopnea the patient very suddenly died.

DISCUSSION

BY DR. E. LAWRENCE OLIVER

NOTES ON THE HISTORY

In the first place we are told these blotches were large, red, and tender. We are not told whether they were raised. Tender blotches of the skin are not so very common in my experience. It suggests the possibility, I think, of the thing's being some blood or focal infection from the start, manifested on the skin.

Of course we have erythema nodosum, which usually comes out on the legs, arms, and occasionally on the trunk. I have seen a case in which the blotches were pretty well scattered over the body. After tonsillectomy in that case improvement began, although the patient had had the disease for six months, new lesions constantly coming out on the legs, arms and some on the trunk. This suggests the possibility of erythema nodosum, although it is pretty far-fetched to have it begin on the trunk.

We have to think also of the possibility of impetigo, which might begin with redness and might be tender. The record does not say how tender.

DR. CABOT: What were those intravenous treatments likely to have been?

DR. OLIVER: They give about everything intravenously now. The colorless fluid might be arsenic of some kind. It might have been sodium iodid. That might make the blotches worse. Arsenic might too, I think.

Ringworm certainly would not be tender—probably not at any rate. That is all I can think of at the present moment. This does not say anything about itching. A good many skin lesions begin with itching.

MISS PAINTER: There was no itching.

DR. OLIVER: Occasionally mycosis fungoïdes begins that way. I have seen it begin very suddenly with one single red blotch. That was a very extreme case which went on to a fatal end in two months. The first lesion was mistaken for a primary lesion by an eminent syphilitologist. This was before the days of the Wassermann and the dark field. Just above the root of the penis was a lesion about the size of half a dollar, which thickened and got red. That was the first, and in about a week similar blotches came out all over the body. Then they began to become raised and thickened, and before the end of the first month began to ulcerate, until the patient was covered with ulcerations and later large pieces

*Ichthyl ointment. Wash: phenol 3 ss, alcohol and water each $\frac{3}{4}$ iv.

of muscle sloughed out. Such a case is very rare, of course.

NOTES ON THE PHYSICAL EXAMINATION

I do not know whether the word "serpiginous" was properly used here. It is a word often used wrongly. When I was a student I used to think it meant a sort of wavy border something like a snake. It does not mean that at all. It means something that starts here, spreads slowly around the edges and clears up in the centre, leaving scarring or no track behind it and in that respect like a snake. It may be ulcerative and may not, but the original part has cleared up. I think about nine out of ten physicians think it means the condition first mentioned. This may have cleared up and may not. In some of the pictures it looks as if it had. Serpiginous is the proper term if it has cleared up in the centre.

This two-ring appearance in one of the pictures is rather curious. It is quite unusual. We get a spot in the centre clear, a zone of erythema around it, then a clear zone, then another zone of erythema. We see that in erythema multiforme, due to some form of toxemia, usually intestinal, where we get the so-called iris lesions and double rings like these. That also suggests the possibility that this came from the inside and was not an outside infection, although occasionally in ringworm, which we know is an external infection, we do get it. We might possibly get it in dermatitis herpetiformis, but so far there is no mention of vesicles. We quite often get single rings beginning as a small vesicle getting a group of vesicles around it, then clearing up in the centre and leaving a perfect ring. That disease almost invariably has great itching. This did not itch, so we can practically exclude it. The sudden onset would also be against dermatitis herpetiformis, although occasionally it does begin rather suddenly. There is usually a history of repeated attacks, but of course it has to begin some time.

The crusts suggest a certain amount of ulceration and destruction, although we may get crusts without any real destruction. In impetigo contagiosa we get thick crusts and yet it never leaves any scarring. These crusts are formed from a superficial exudate and fall off leaving no scar.

This sounds rather like ulceration to me, and it sounds as if the term "serpiginous" had been correctly used.

I should think we might get the enlarged and tender glands spoken of in the record from the lesions on the skin, because even if the skin lesions were of internal origin there would probably be secondary infection from these crusts. So I think that is quite natural. He certainly had some fever, probably accounted for more by the throat than by the skin, although he would very probably get considerable absorption from

the skin as it is described. However, it is extraordinary how many ulcerative skin lesions we can have without any fever. In the case of the Portuguese clerk which we discussed some months ago there was practically normal temperature although he was really rotting away, with huge ulcerations giving rise to an odor that was frightful. I never saw a more terrible case than that one. Yet he was very cheerful up to a few days before his death. He ran a very slight temperature in spite of the enormous amount of absorption which he must have been getting from those lesions. Of course that was rather a necrosis than a definite infection, but there must have been a great amount of secondary infection in that necrotic tissue it seems to me.

This blood was apparently normal except that it was a little bit low in the reds, on account of his fever, I suppose, and the reaction to the infection.

The whole thing, looking it over here, suggests one other thing which I have not mentioned, that is the possibility of its being glanders. I do not believe it was glanders, but this obstruction in the throat, the nasal secretion and these lesions on the skin might possibly be glanders. He was a grocery clerk, but may have driven a horse. Glanders is only a vague possibility, however.

We have not said anything about the possibility of pemphigus. Pemphigus sounds very likely, but there is no mention of bullae. We should certainly expect to find bullae at some stage. He has crusts, a fact which suggests that bullae may have appeared and ruptured and caused these crusts. The absence of any mention of them seems to exclude pemphigus to my mind. We get just this sort of thing in glanders. It is a very destructive process and runs a very acute course, as this apparently did, with death in six to eight weeks usually. This man lived considerably longer than that, so it is rather a long course for glanders.

Looking at the whole thing, we have to consider the possibility of very malignant syphilis, although it seems to me rather far-fetched. There is no evidence of chancre, and syphilis would hardly start with a few tender blotches. If it was syphilis it was certainly of the most malignant type, and these malignant types sometimes do give a negative Wassermann reaction and early death. I do not think we see that type often now. Two hundred or three hundred years ago such cases were frequently reported. Syphilis is certainly getting milder. Dr. Abner Post once told me that he believed the disease had become milder even during his years of practice. It is a very different disease now from what it was in the sixteenth century.

The remarkable improvement noted on September 2 is hard to explain without any change in treatment. This is decidedly in favor of Vincent's angina, in which arsphenamin locally

seems to do very well. The skin condition however does not fit in with Vincent's. I have never seen any skin lesions in that disease, although I believe they may occur occasionally. It would be hard to believe that so many skin lesions could be due to that.

This is the first mention of bullae. If he had real bullae that sounds more like pemphigus.

I suppose the general absorption from any general infection might give him a toe-drop. I do not know much about that. Diphtheria might give him toe-drop.

"Persistent cough with blood-flecked sputum." That is something new again. I think we might get that from chronic irritation where some of those ulcers were trying to heal.

DIFFERENTIAL DIAGNOSIS

It seems to me the chances are that that was a very acute pemphigus—I think that is the most probable thing—in which case we might find very little at necropsy. Most of the real pemphigus cases we have had have shown no cause of death so far as I remember. I believe it was not syphilis or Vincent's or an acute mycosis fungoïdes. The best diagnosis we can make, I think, from the history and the picture, is a very unusual case of pemphigus, with the vague possibility of glanders in the background. Of course if it were glanders I suppose they would have found the glanders organism. It is a very rare disease about here. I do not remember any cases in man being reported in Boston in the last few years.

DR. YOUNG: What strength arsphenamin is used for a local?

DR. OLIVER: I think they use it pretty strong, perhaps five per cent or even stronger. Occasionally they blow on straight powder. I think they use the neuarsphenamin mostly. That is less irritating than the arsphenamin itself.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Mycosis fungoïdes.

DR. E. LAWRENCE OLIVER'S DIAGNOSIS

Pemphigus.

ANATOMICAL DIAGNOSIS

1. Primary fatal lesions

(Mycosis fungoïdes.)

Myeloid cell infiltration of skin, spleen and kidney.

2. Secondary or terminal lesions

Serous atrophy of the fat of the bone marrow.
Hemorrhagic edema of the lungs.
Fatty metamorphosis of the liver.

3. Historical landmarks

Chronic pleuritis.
Slightly defective closure of the foramen ovale.

DR. RICHARDSON: The skin generally from the scalp to the soles of the feet showed innumerable discrete and confluent smaller and larger plaque-like areas, the outer surfaces showing dirty brown crusts and the central portions of many showing smaller and larger losses of substance extending into the subcutaneous tissues and no farther. In the sacral region there was a large irregular decubitus-like loss of substance with a dirty reddish base. Cutting across these plaques showed gray-white thickening extending into the subcutaneous tissues.

There were a few old pleural adhesions.

There was a considerable hemorrhagic edema of the lungs.

The circulatory apparatus generally was negative.

The kidneys were negative except for a small firm grayish area in the left kidney of myeloid cell infiltration.

The case is classed under mycosis fungoïdes, but the cells of infiltration are like atypical myeloid cells.

DR. OLIVER: I have never seen bullae in mycosis fungoïdes. Of course the absence of bullae in the first part of the history is much against pemphigus. Then when they begin to crop out it is more like pemphigus. We do not often have such acute cases of mycosis fungoïdes as this. There was a section from the throat and skin I believe.

DR. HOLMES: Is there any note of what effect the X-ray treatment had?

DR. OLIVER: There was apparent improvement with X-ray up to a certain point. That is rather in favor of mycosis. I do not believe it would affect pemphigus.

DR. CABOT: Pathologically would it be mycosis fungoïdes?

DR. RICHARDSON: Lymphoma.

A PHYSICIAN: Doesn't it go with leukemia?

DR. RICHARDSON: We have had cases involving the tissues, organs, glands, and I think some of them had blood pictures.

DR. OLIVER: Yes, they did. When they had leukemia we had to call them leukemia. But in some cases the blood picture is normal for two or three years, and then the picture of leukemia begins to come into it. When they die early perhaps they have not had time to develop leukemia. One of the New York dermatologists said that if the blood was repeatedly examined he thought a good many would show leukemia toward the end. One case I know of did not become leukemic so far as the blood was concerned until the last week of life, although it had been going on for some time. So it is very possible that they all belong in the same group, the leukemias and mycosis fungoïdes.

DR. CABOT: Every time we have a skin disease here it is borne in upon me that it is a scandal that dermatologists and internists do not get together and reform their terminology. It

seems to me a scandal that the same disease should be called different names by different groups of people. This could be called lymphoma, which is sometimes leukemic and sometimes non-leukemic.

DR. OLIVER: I think pathologists call it malignant lymphoma now.

DR. CABOT: Have you ever heard of any action by any one of these groups to try to wipe out the scandal I have referred to?

DR. OLIVER: I think some of the New York men have made such an attempt.

DR. CABOT: It reminds me of the old times when we used to have a clinical diagnosis of neurasthenia and a post-mortem diagnosis of cancer of the pleura, neither group comparing their findings with those of the other group. The diagnoses stand on the records side by side today.

DR. OLIVER: Pemphigus is a pretty definite disease as a rule. There is an acute type in butchers which kills very rapidly within a few days to a week. It probably comes from meat which they handle. There has been one such epidemic in England and one in Boston, but very few others I think. It is a very rare condition. Then acute pemphigus, which this might have been. Nobody knows the cause, and usually no cause is found at necropsy, in the cases we have had. It may be a very slow, chronic disease which may go on for years. It is a frightful disease because absolutely hopeless, although in Philadelphia Dr. Schamberg believes that we are going to get some results with mercurochrome intravenously.

CASE 11113

SURGICAL DEPARTMENT

A nine-year-old schoolboy came to the Accident Room March 2. His father said that except for measles and whooping cough the boy had been perfectly well until a week before admission, when he bruised his shin. That evening when his shoe was taken off he complained of pain just above the ankle. The next morning he was unable to stand on the foot and complained of pain in the lower leg. This had persisted. February 24 the leg was red and swollen. February 25 the left arm became sore, and the following day the lower arm and elbow were red and swollen. The day of admission the right arm began to be sore. The boy had complained chiefly of pain, most severe in the leg. He had eaten and slept very little.

Examination showed a fairly well nourished, rather pale boy. The throat was somewhat reddened. The tonsils were slightly enlarged. The heart and abdomen were normal. There were rales throughout both lungs. The right leg from the knee, including the ankle, was much swollen and red. There were many blebs

filled with serum about the lower part of the foot and ankle. There was exquisite tenderness on pressure over the tibia. The left arm from the elbow to the wrist was swollen, very tender, and in the lower half somewhat reddened. There was an indefinite sense of fluctuation in the soft parts. The right elbow was somewhat swollen and very tender to pressure and passive motion. X-rays showed nothing definite. The temperature at admission was 104°, the pulse 120, the leucocytes 22,000.

Operation was done the day of admission. The boy was in poor condition after it. The next day the pulse and general condition seemed a little better. March 5 there was tender swelling in the region of the right parotid and he seemed worse. The following day this swelling was very marked and was extending upward over the scalp. There was also some swelling in the left parotid region. March 7 both sides were opened and pus was obtained from inside both parotid sheaths. March 9 the boy died.

DISCUSSION

BY DR. EDWARD L. YOUNG, JR.

It seems to me the diagnosis here is pretty definite. The question is what the best treatment is in an (at present at least) hopeless case of this kind. Here is a boy who bruises his shin and then starts with the evidence of multiple infections. When this boy came here—this was several years ago I think—we were more in the habit of concentrating on the local lesion, that is the osteomyelitis of the tibia or the abscess of the lower arm, but I think that this condition should be looked at from every angle. He has first a septicemia, presumably staphylococcus aureus. Just as we know that a great many diseases start first as a septicemia and localize in a given tissue, just so this is a septicemia which is trying to localize in isolated areas.

We have already come to the place where we know that certain surgical conditions are best left alone. For instance carbuncles of the upper lip; if left alone the patient has an equal chance of living—fifty to fifty; if operated on, one chance in ten.

DR. CABOT: How about the old place in the back of the neck?

DR. YOUNG: That generally heals up more quickly with drainage. Apparently the lip lesion is concerned with the drainage that goes into the skull.

The same with a streptococcus cellulitis. If that is operated on early the patient has a much poorer chance of living than if we let the patient do the fighting until the infection is localized.

This boy has undoubtedly, from the story, a staphylococcus septicemia, which is a more dangerous thing than the streptococcus. It is localizing in various places. If the area can be

opened with a minimum of damage to the boy it may be the thing necessary, and of course if he is able to localize it it has to be done eventually. But with a boy presenting this picture it is a pretty forlorn hope to do any surgery.

The fact that the X-ray shows no evidence of trouble does not rule out acute osteomyelitis, because X-ray does not show it in the early stage as this is.

From the description I should assume that they opened over the tibia and possibly over the left lower arm.

DR. CABOT: How common is it to have multiple localization of a staphylococcus osteomyelitis? Isn't it usually in one bone?

DR. YOUNG: Yes, it generally is. But I think where it is a septicemia we may have it in various places, not only in the bone but in soft tissues elsewhere in the body.

DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Staphylococcus septicemia.
Multiple osteomyelitis.

PRE-OPERATIVE DIAGNOSIS

Multiple osteomyelitis.

OPERATION

Gas and ether. Five-inch incision over the tibia. The periosteum was dissected entirely free the length of the bone by a large abscess. Pockets of pus in the popliteal space and about the ankle. The periosteum was split and several trephine holes made into the tibia. The pus was wiped out and the periosteum folded back over the bone and packed with gauze. Two inch incision over the left ulna. Abscess cavity found and drained. Trephine opening into the bone showed pus. Wound packed open with dry gauze. One and a half inch incision over outer condyle of right humerus. Abscess of antecubital space drained. Periosteum found dissected free from bone. Trephine opening into medulla obtained pus. Wound left wide open. Dry dressings and bandages. Patient sent to the ward in poor condition.

FURTHER DISCUSSION

He did have multiple infections in the bone. Where else is it logical that Dr. Richardson will report abscesses? If this is staphylococcus, as seems to me likely, from what we know of this bug it is in the bone, in the muscle tissue, maybe in the kidneys, liver, lungs.

In this sort of case about the only hope there is to find the drug which will sterilize the blood-stream. Mercurochrome, which has been tried out, is not that drug. There have been cases in which it has seemed to help, but it is not proved. Gentian violet has been used and seemed to have more beneficial effects in streptococcus and staphylococcus septicemia than mercurochrome.

CLINICAL DIAGNOSIS

Osteomyelitis, right tibia, right radius, left ulna.
Double septic parotitis.
Sepsis.
Exhaustion.

DR. YOUNG'S DIAGNOSIS

Septicemia, staphylococcus.
Osteomyelitis.
Multiple abscesses.

ANATOMICAL DIAGNOSIS

Septicemia, staphylococcus pyogenes aureus.
Osteomyelitis.
Pyemia, abscesses of the lungs, myocardium, thymus, kidneys, and anterior thoracic wall.
Serofibrinous pericarditis.
Fibrinopurulent pleuritis, double.
Septic spleen.
Operation wounds.

DR. RICHARDSON: We were not permitted to examine the head. In these cases abscesses and meningitis are found at times.

DR. YOUNG: There were no mental symptoms mentioned.

DR. RICHARDSON: On each side of the neck just below the angle of the jaw an open wound extended into the deep tissues. In the region of the left forearm an open wound extended down to the ulna, in which there was a small surgical opening. In the region of the inner aspect in the lower part of the right upper arm an open wound extended down to the humerus, in which there was a small surgical opening. In the region of the right leg an open wound extended down to the tibia, in which there was a small surgical opening.

There was a small amount of subcutaneous fat. The muscles were pale and soft. At one place in the subcutaneous tissues of the anterior thoracic wall there was a small collection of pus.

The peritoneal cavity and gastro-intestinal tract showed nothing to record. Once in a while in these septicemias we do find lesions in the mucosa of the gastro-intestinal tract. They vary from hemorrhagic areas to areas of hemorrhagic necrosis, and may go on to perforation. In one case along the mucosa of the small intestine there were small collections of pus,—abscesses. In this case although there was a marked infection the gastro-intestinal tract escaped.

The lungs were weakly bound to the parietal pleura by yellowish fibrino-purulent material,—abscesses of the lungs which had extended through and involved the pleura. The bronchial lymphatic glands and trachea and bronchi were negative.

The pericardium showed a frank acute per-

icarditis. The heart weighed 125 grams. In the myocardium here and there were small collections of pus,—abscesses. The circulatory apparatus otherwise was negative. The kidneys were dotted over with minute abscesses. The culture from the spleen, which was soft, gave a good growth of the staphylococcus aureus. There were some small abscesses in the thymus. All told a frank case of pyemia, the portal of infection debatable.

DR. YOUNG: He hit his shin and it started immediately after that.

DR. RICHARDSON: That is the usual story.

DR. CABOT: I should like to say a word on what Dr. Young said of trying for some sort of chemical treatment for these cases. He applied that only to the very serious cases like this. I believe and venture to prophesy that if we develop drugs of the gentian violet type we shall apply them not only to the apparently hopeless case but to the early case which, if left alone, becomes appendicitis, becomes cholecystitis. We do not often take our histories from the point of view of the hypothesis that those supposed local lesions are septicemias first. We know that typhoid, pneumonia, meningitis are first septicemias and later local, because those have all been proved. I believe that appendicitis and cholecystitis are the same. I believe that with careful history-taking and especially with this point of view behind that history-taking we are going to be able to recognize these cases in the septicemia stage before they become appendicitis and cholecystitis, and if we get any sterilizing drug to put it in early when it has much more chance of doing good, as we do with tetanus now.

I feel as if we are going to have a rearrangement of our ideas about the so-called local lesions, which I believe are not first local and then general, septicemia coming from the local, but general septicemia first and then the local lesion.

I have been very much interested in a recent report of a cure following injection of gentian violet in a case of what we call malignant endocarditis due to streptococcus viridans. That does not prove that the case would not have got well without it, but I have never seen one get well.

A PHYSICIAN: Do you think that principle might apply to furunculosis?

DR. CABOT: I think so. I do not believe furunculosis is a thing that comes in from the skin in most cases; it comes from a weakening of the powers of resistance against the bacteria which are constantly circulating in the skin or in the blood. Adami and others have shown how common it is to have bacteria circulating in the blood, how common to have mild septicemias which we never complain of at all, the bacteria being excreted by the kidney and never making any localizations. That sort of work and the work of Dr. Frank Kidd* seem to me to show

how mild septicemias often are. I think we often do not find them out. Whereas we have thought of septicemia as a terrible disease almost invariably fatal, I think it is a common disease and in most cases not realized at all.

DR. YOUNG: The trouble is that up to the present the drugs are themselves very upsetting. There is no question but that there is a considerable risk of mercurial poisoning in using mercuriochrome. I think the drug has to be of guaranteed harmlessness to have it used in the majority of cases. Although I do believe what Dr. Cabot has said about the large number of these cases at least starting as septicemias.

CURRENT LITERATURE

ABSTRACTORS

GERARDO M. BALDONI	TRACY MALLORY
WILLIAM B. BREED	HERMAN A. OSGOOD
LAURENCE D. CHAPIN	FRANCIS W. PALFREY
AUSTIN W. CHEEVEE	EDWARD H. RISLEY
RANDALL CLIFFORD	GEORGE C. SHATTUCK
ERNEST M. DALAND	WILLIAM H. SHEDDEN
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ROBERT M. GREEN	JOHN B. SWIFT, JR.
JOHN B. HAWES, 2ND	GEORGE G. SMITH
JOHN S. HODGSON	W. T. SHERMAN THORNDIKE
FRED S. HOPKINS	WILDER TILSTON
CHESTER M. JONES	HENRY R. VIETS
CHARLES D. LAWRENCE	SHIELDS WARREN
BRYANT D. WETHERELL	

FUNCTIONS OF THE PARATHYREOIDS

PATON, NOEL (*Edinburgh Medical Journal*, Oct. 1924) discusses the functions of the parathyroids and concludes as follows:

1. The increased muscular tone which generally follows removal of the parathyroids indicates that these structures exercise an influence upon the tonus of skeletal muscles.
2. The marked increase of muscle tone and the close similarity of the other symptoms to those produced by removal of the parathyroids which follow the administration of guanidin and its methyl compounds seems to show that they play a part in the maintenance of that tone.
3. The fact that these substances are increased in the blood and urine after parathyreideectomy, and in the urine in idiopathic tetany, suggests that their metabolism is controlled by the parathyroids and that it is through them that muscular tone is regulated.
4. The immediate action of these substances in one adequate dose is undoubtedly to stimulate the efferent neurons of the spinal cord, and in a moderate dose to increase the excitability of the neuromyons. But with repeated doses they apparently become anchored upon these structures to produce a condition of facilitated activity, and this is probably their chief mode of action in tetany.
5. That a decrease in the calcium of the blood is not the primary factor in the causation of the symptoms is shown by the effect of bleeding and transfusing a calcium-free solution, and further by the fact that a decrease in the calcium of the blood may occur without tetany, e. g., in uremia, and that tetany may occur without a marked fall in the calcium.
6. There is no conclusive evidence to show whether this fall, when it occurs, is a result of the increase in the methyl-guanidin or a concomitant of it.
7. No satisfactory explanation of the rise in the phosphates has been given, although the results of

*Common infections of the kidneys. London, 1920.

Greenwald and Gyorgy indicate that there may be a decreased excretion.

8. There is no indication that the increase in the phosphates plays a direct part in the production of symptoms.

9. Accepting the evidence that the parathyroids influence the tone of muscles, they seem to do so by controlling the metabolism—production or destruction, or both—of the methyl-guanidines.

10. Evidence has been adduced that the methyl-guanidines and creatin may be derived from the cholin of the lecithin molecule.

11. There is some indication that an excess of guanidines may be detoxicated by conversion to creatin.

12. There seems to be no doubt that the precursors of the methyl-guanidines are endogenous, although possibly the products of the digestion of meat, etc., may also furnish precursors.

[R. C.]

TRAUMATIC FAT NECROSIS OF THE FEMALE BREAST AND ITS DIFFERENTIATION FROM CARCINOMA

LEE, B. J., and ADAIR, F. E. (*Annals of Surgery*, Nov., 1924).

These authors presented an article on this subject before the American Surgical Association in May, 1920, and have since collected a considerable number of other cases which they here report.

They present in this paper all authentic cases so far reported. They discuss the pathology and state that the gross appearance of the lesions in fat necrosis resembles in many respects that of carcinoma and in many cases it is difficult to distinguish between the two conditions. In both there is the same firm induration which is readily explicable because the induration is caused by the growth of new connective tissue which is progressively cicatrized. Carcinomatous nodules, however, in the breast are nearly always single, whereas traumatized fat is often very irregularly distributed and cicatrization appears in multiple points.

The authors conclude that:

1. Traumatic fat necrosis of the female breast is a definite clinical disease.

2. Its importance lies mainly in its striking similarity to carcinoma of the breast, not only as to its clinical appearance, but also as to its gross and microscopic picture.

3. A correct diagnosis of the condition prior to operation can sometimes be made.

4. Surgeons should recognize this lesion and constantly be on the lookout for it.

[E. H. R.]

FRACURE OF THE LARYNX

MULLEN, T. F. (*Annals of Surgery*, Nov., 1924). Mullen presents a most interesting article on a subject little written about. The largest number of cases reported in the literature of this condition is 124 collected by Hoffman.

It is found that the larynx is fractured more frequently in adult life, probably on account of the greater exposure to injury at this time and the extreme calcification of the cartilages. Cases, however, do occur in childhood. Fracture may occur in all or any of the cartilages, but as a rule the thyroid is the one involved. It has been said by some writers that fracture of the larynx never occurs from hanging, owing to the position taken by the noose. One case, however, is described in detail.

Associated with fracture, the mucosa may be torn, permitting air to gain access to the cellular tissues of the neck with resulting emphysema. Cases may become chronic; on the other hand, every case should be considered to be of the most serious nature.

Symptoms oftentimes make their appearance sud-

denly with almost fulminating rapidity and progress to a fatal issue before anything can be done.

Death occurs in about 88 per cent. no matter what the treatment. In cases in which examination of the larynx shows little internal injury, expectant treatment may be employed, but one should be constantly on the alert for sudden oedema of the glottis and should be prepared to do emergency tracheotomy at any moment.

The author describes three cases and gives a very adequate bibliography.

[E. H. R.]

THE MECHANISM OF POST-OPERATIVE HEMORRHAGE

WILENSKY, A. O., and SAMUELS, S. S. (*Annals of Surgery*, Nov., 1924).

These authors after considerable investigation conclude that the evidence appears strong that infection is the most important single factor, if it be not the only factor, causing secondary hemorrhage in operative and other wounds. The studies herewith reported show that the presence of the drainage apparatus causes an apparently protective thickening of the wall of the vessel with which the drainage material is in close contact; that this thickening is due to a proliferation of connective-tissue cells in the intima; that the infective process with resultant cell necrosis begins in the intima and spreads to the media; that a rupture occurs in the intima and media with the formation of an aneurismal sac; and that the bleeding follows as a result of the rupture of the aneurism. It seems, then, that in cases of secondary hemorrhage, such as have been described, the important causative factors include an initial trauma of some kind, plus pressure of the tube or other drainage apparatus in an infected environment.

[E. H. R.]

HEXYL RESORCINOL

LEONARD, VEADER (*Jour. of Urology*, Dec., 1924).

Hexyl resorcinol, a stable organic substance of known chemical constitution, is the most powerful germicide ever described as a non-toxic substance. The application of hexyl resorcinol as an internal urinary antiseptic is based upon a logical and orderly development of the chemical and biological characteristics of its lower homologues. Hexyl resorcinol is not toxic by mouth and is administered in repeated doses for indefinite periods. Prolonged administration of large repeated doses to animals and to man results in no injury to the kidney or irritation of the urinary tract. It retains its powerful bactericidal action in solution in human urine of any reaction and is secreted unchanged by the kidney after oral administration in sufficient concentration to impart active bactericidal properties to the urine. No other substance (except its less efficient homologue) has ever been described as possessing these qualifications. It is highly probable that hexyl resorcinol exerts little if any influence on infections which have invaded the parenchyma of the kidney. It is an internal urinary antiseptic.

[B. D. W.]

EXPERIMENTAL STUDIES IN ARTERIOVENOUS FISTULAS

HOLMAN, E. (*Archives of Surgery*, Part 2, Nov., 1924).

In his first article, Holman devotes his attention largely to the results of blood volume variations. A second article, with collaborators, discusses pulse and blood pressure variations. The third division of this article discusses cardiac dilatation and blood vessel changes. This bit of work is marked by its great thoroughness and very adequate illustrations to the text by plates and charts.

[E. H. R.]

ONE HUNDRED AND SEVENTEEN CONSECUTIVE MAJOR UROLOGIC OPERATIONS PERFORMED UNDER REGIONAL ANESTHESIA

LOWSEY, O. S. and H. E. ROGERS (*Jour. of Urology*, Nov., 1924).

The administration of regional anesthesia for operations on the urinary organs is sufficiently simple to be mastered by an intelligent anesthetist and should be done by him and not by the busy surgeon. The anesthetist of the future, if he keeps abreast of the wheels of progress, must be able to give any type of anesthesia. Practically any type of operation upon the organs of the genito-urinary system can and should be done under regional anesthesia. The feelings of the patient should be considered first, last and all the time. If the anesthesia is not 100 per cent. successful it should be immediately reinforced by a few drops of ether which is usually sufficient. The surgeon should promise the patient that the procedure is to be painless and live up to his promise. The great advantages of regional anesthesia are: (a) the patient can take fluids up to, during and immediately after operation; (b) there is approximately one-tenth the amount of bleeding noted as compared with any type of inhalation anesthesia; (c) the patient suffers little or no pain after operation due to the persistence of the anesthesia, thereby avoiding one of the most common shock-producing elements. The supreme disadvantage of regional anesthesia is that there is no way of removing the drug after it is once injected; therefore, it must be introduced slowly and injection stopped immediately if any toxic effects whatever are noted. No more than 1.5 grams of procain or its equivalent should be used for any operation except under unusual circumstances. Adrenalin or epinephrin is much more toxic than usually supposed and should be avoided. Any supposed advantage obtained by its use is more than counterbalanced by its risk of increasing the toxicity of the anesthesia agency.

[B. D. W.]

PHYSIOTHERAPY IN RENAL TUBERCULOSIS

MARTIN, W. F. (*Jour. of Urology*, Nov., 1924).

While the author is hardly bold enough to claim the cure of renal tuberculosis by this regime, he is enthusiastic about the results obtained since adopting it. If for no other reason than to commend a routine treatment, as outlined, it is certainly worth while for the relief it brings to some of these poor afflicted souls whose existence at best is only one of continual suffering. Surgeons are quite prone to consider their obligation discharged after a successful recovery from the operation. In urogenital tuberculosis it is to be remembered that the patient is not cured of his tuberculosis by a successful nephrectomy. If we are to secure a larger incidence of complete cures, with a reduction of the high mortality in the first year after the operation, then we must either treat all these cases or see that they are scientifically treated by a course of rational physiotherapy.

[B. D. W.]

INTRADURAL ANESTHESIA IN GENITO-URINARY SURGERY

STIRLING, W. C. (*Jour. of Urology*, Nov., 1924).

This report embraces 160 cases in which spinal anesthesia was used, and such uniformly good results have been obtained that its use as a routine anesthetic is strongly advocated in surgery below the costal margin. The mortality compares very favorably with any other anesthetic and the postoperative complications, such as distension, nausea, and vomiting, have been markedly reduced. Fluids may be kept up before, during and after the operation.

thus lessening the depletion of body fluids. The cardio-renal and respiratory systems, which in these conditions are already depressed, escape the additional burden which would be thrown on them by inhalation anesthesia, and thereby lessen the danger of uremia.

[B. D. W.]

STUDIES IN BILIARY TRACT SURGERY

BALDWIN, J. H. and GILMORE, W. R. (*Annals of Surgery*, Nov., 1924).

These authors present a survey of one hundred and thirty cases and draw the following conclusions:

1. Cholecystitis may have its origin in vague beginnings in early life, but is clearly recognized and routinely treated in or past middle life. The average duration of clear cut symptoms was slightly over 2 years, while the average age of the patient in our series of 130 consecutive cases was 44 years.

2. Widespread, definite and troublesome adhesions with bands from gall-bladder to duodenum and transverse colon were the most uniform finding in all types of cases.

3. Seventy-five cases were treated by cholecystectomy, with 4 deaths encountered from this series.

4. Forty-one cases were treated by drainage methods, with 4 deaths. Deaths in both series were due to cardio-renal failure or peritonitis in complicated (stone cases).

5. The mortality percentage was 6.16 per cent. Of 11 secondary cases, 2 followed cholecystectomy, 9 followed drainage procedures.

6. In the follow-up data, the cholecystectomy cases were freer from symptoms and maintained their regained health more constantly.

[E. H. R.]

TUBERCULOSIS OF THE GENITO-URINARY TRACT
CONFINED TO THE PROSTATE

SCOTT, W. W. (*Jour. of Urology*, Nov., 1924).

Tuberculosis of the genito-urinary tract confined to the prostate, although a rare lesion, does occur in view of the fact that, in the majority of these cases, tuberculosis was discovered in the course of the routine pathological studies of the tissue removed at operation, the importance of this procedure cannot be too greatly emphasized. When dealing with patients of the hypertrophy and cancer age, where the diagnosis of either of these conditions seems at all questionable, the possibility of tuberculosis should not be overlooked in the re-study of these cases. The presence of a previous tuberculous infection of the prostate gland does not necessarily rule out the possibility of a subsequent hypertrophy or cancerous involvement, or both.

[B. D. W.]

TUBERCULOSIS OF THE SEMINAL TRACT

DILLON, JAMES R. (*Jour. of Urology*, Nov., 1924).

The case reports given, the operative findings, and pathological examinations indicate the probable primary tuberculous lesions of the seminal tract to be more often in the pelvic genital organs, than is generally conceded. The only hope of radical cure or complete arrestation of the disease is by the radical operation—that is, excision of the tuberculous seminal tract. A better educated examining finger will detect more involvement of the prostate and vesicles. If the patient with unilateral epididymitis is seen early enough there may be hope of removing the entire tuberculous tract while it is still limited to one side, and saving for him the opposite seminal tract.

[B. D. W.]

THE BOSTON Medical and Surgical Journal

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THE CHLORINE TREATMENT OF CERTAIN RESPIRATORY DISEASES

EDWARD B. VEDDER, M.D., Lt. Col., Medical Corps, U. S. A., has devoted considerable attention to the chlorine treatment of certain respiratory diseases. The fact that Vedder and Sawyer employed it in treating President Coolidge gave wide publicity to the claims for therapeutic efficiency.

Subsequently doubt has been raised as to the efficacy of chlorine gas in combatting infections of the upper respiratory tract based to an extent on experiments conducted at the Walter Reed Hospital where no evidence of benefit was apparent.

Vedder has continued to study the use of chlorinating gas in this group of diseases and in a paper read before the New Jersey Sanitary Association which has been published in the *Journal of the Medical Society of New Jersey, Vol. XXII, No. 2*, claims that the failure to secure favorable results is due to inadequate apparatus and inefficient application of the gas.

Vedder claims that with a better inhalator which is operated by a motor and fan which mixes the air and gas in proper proportion much better results have been secured.

A questionnaire recently sent to physicians

who have used this improved apparatus brings forward testimony that in a series of 1029 cases, 646, or 60 per cent., were cured, 312, or 30 per cent., were improved and only 51, or 6 per cent., were not benefitted. Most of the cases were acute coryza or bronchitis with a few whooping cough patients.

The article is well written, the belief of the author is affirmed and his position would seem to warrant further study in the use of the apparatus recommended. If results approximating those claimed by Vedder can be secured, the use of this gas will be a boon, especially during epidemics of influenza. Vedder states that no cases of influenza were observed during the epidemic in 1918 among operators of the chlorine plant at the Edgewood Arsenal, although all other organizations suffered their full share of cases.

He believes that all places where people congregate, such as schools, churches and theatres, may be made comparatively safe and he feels confident that further investigation will be found to prove his contentions.

NEW CONCEPTIONS OF DISEASE AND TREATMENT

THE whole hearted belief in bacteriology which has been quite a distinctive feature of diagnosis and treatment for several years past seems to be fading somewhat. Laboratory diagnosis is not regarded with the respect, almost reverence, of but a few years ago. Clinical evidence, or rather evidence based on clinical investigation, appears to be coming into its own again, that is, judging from the advice of distinguished physicians.

For some time now Sir James Mackenzie has been warning continually the present and rising generation of medical men not to place too great trust in laboratory evidence, but to rely more on the use of their eyes and natural senses. The President of the British Medical Association made it the main subject of his address last year and inveighed in very strong terms against the existing custom of disregarding, to a very large extent, the clinical aspect of disease, and allowing the faculties of clinical observation to fall into disuse from lack of practice. Lastly, in a memorandum issued recently by the British Ministry of Health, it is pointed out that most progress has been made of late in pathology and biochemistry. The reason, therefore, of an eclipse or partial eclipse of bacteriology, may be found in the belief that this branch of medicine, if it has not come exactly to a blind alley, has at least come to a halt, temporary although it may be. Moreover, there appears to be a faith which is growing in biochemistry and physics as a means of explanation of much that is obscure in medicine at the present time.

There are signs, more or less vague as yet, that new conceptions of disease are arising, although such views are themselves nebulous. It is thought by some that there is a more or less fundamental unity of disease and that many of the nosological labels attached to them are superfluous and confusing. It certainly is true that methods of treatment are changing, based largely on our improved knowledge of chemistry and physics. Symptoms are not treated so frequently as formerly, but in accordance with the teaching of Sir James Mackenzie efforts are being made to discover the primary cause of a disease as early as possible in order to be able to prevent it from developing. In short, the object of treatment is coming to be preventive to some extent. To aid the protective powers of the body to defend themselves against the attacks of disease by the agencies of adequate amounts of suitable food and healthy environment, assisted when necessary by medicinal agents which further stimulate the vital forces to resistance against invasion, and by the employment of light and heat, Dr. Barr Ferguson, Medical Officer in Charge of U. S. Public Health Service at Southampton, England, contributed a paper to the *New York Medical Journal*, December 17, 1924, which accords with the mode of treatment referred to above. He has employed salicylate of mercury in the treatment of various forms of infection, as hay fever, pleurisy, arthritis of septic origin, infectious conjunctivitis, acute otitis media, tonsillitis and influenza, and lymphangitis following typhoid fever.

Also, on Dr. Ferguson's recommendation, the same treatment was followed by Dr. Rundle in the City Hospital, Liverpool, in thirty cases of encephalitis lethargica with very satisfactory results. The extensive use of salicylate of mercury for a period of eight years has convinced Dr. Ferguson that the mercury itself cures nothing, but that its value lies in the stimulation of the production of white blood cells, thus bringing to bear upon the invading organisms all the purely natural forces of the body against infection. The results of Dr. Ferguson's investigations seem to be in keeping with the theory that drugs do not act directly on the infection, the belief long held, but that they act by stimulating the protective mechanism of the body to repel the attacking organisms. Perfect health signifies that perfect immunity to disease has been attained and when a break appears in this natural armor of health, measures must be taken to repair the damage by stimulating to action the defensive powers of the body by various means including certain drugs. Disease is beginning to be considered from a somewhat different standpoint to that held formerly and while much elucidation is still required, on the whole, the outlook is encouraging, and, at any rate, modern views as to treatment are rational, in so far as they appear to be generally successful.

HISTORY REPEATS ITSELF

FOLLOWING the custom of several years the Committee on Public Health of the Massachusetts Legislature has reported leave to withdraw both of the vaccination bills. House 665, Dr. S. B. Woodward's bill, was designed to extend the requirement of vaccination to pupils in private schools. The other bill, House 531, would, if enacted, have provided exemptions for the children of those parents who are opposed to compulsory vaccination. Many people would like to be given the reasoning governing these decisions.

The State is committed to compulsory vaccination of public school children with the privilege of an exemption when a physician submits a certificate tending to show that a child's health would be imperiled by this operation. Since the state requires school attendance under a certain age, the logic of the situation would seem to demand as much protection for the child and the community in one case as in the other. It is possible that the decision against extension of vaccination was founded on the belief that fewer children in private schools are exposed to contagion and therefore the danger being less, it is not worth considering. This is along the line of Mr. Nunn's argument based on the statistics which show more deaths from some other communicable diseases than from smallpox. If this reasoning should become general in dealing with disease, the comparatively less common dangerous diseases, although possible sources of widespread epidemics, would be lightly considered until the mortality became impressive. Yellow fever, plague or typhus might kill a few but why worry until they rank with scarlet fever, diphtheria or measles? In considering a danger more obvious to people of ordinary intelligence we might say, why try to control bonfires since gasoline is a greater peril?

Our friends of the opposition through their spokesman may not understand the country-wide concern over a few deaths caused by diphtheria in Alaska or the universal sympathy shown for an unfortunate man trapped in a cave. Only a few died in Alaska and comparatively few lives are lost in caves.

We feel that wherever and whenever lives may be saved or suffering obviated, all available resources should be put in operation. For example, if one citizen of this country is held in captivity by another nation or subjects of that nation, this government would exert all its available resources which might be employed in succoring the unfortunate person.

Returning to the original question, one wonders why, in the presence of well nigh universal medical belief in the efficacy of vaccination and an array of statistics by Dr. S. B. Woodward and Dr. C. C. Pierce supporting this belief and which were submitted to the committee, this decision referred to above was reached. We cannot believe that political exigencies would lead

our chosen representatives knowingly to neglect or evade a recognized responsibility. The difficulty may lie in distrust of the veracity or logic of those who stand as authorities in medicine. It is true that a considerable number of people have become distrustful of vaccination, either through some unfortunate circumstance wrongfully attributed to vaccination or because of readiness to believe that arguments advanced by scientific observers are unsound.

Until we know exactly the workings of the minds of our legislators the contest must be carried on in the interest of humanity. So long as there are lives to be saved, the medical profession cannot shirk or quit. There will surely come a time when truth will prevail.

WORKMEN'S COMPENSATION CASES

THE attention of JOURNAL readers is called to two articles in the *American Medical Association Bulletin* of January last; the address of President-Elect W. D. Haggard on page 5, and "The State Association and Workmen's Compensation Laws," by W. C. Woodward on page 22.

Dr. Haggard, in a paragraph on workmen's compensation, points out the seriousness of the problem confronting the profession, for the Workmen's Compensation Act has taken away from the patient the liberty of choice of his doctor.

Dr. Woodward makes a careful analysis of the situation. It is the employee whose future physical welfare is at stake, and under existing laws he is required to surrender his freedom of choice in order that he may reap the benefit of legislation passed supposedly in his interest. Wisconsin has straddled the situation by providing a paper system whereby the employer is required to submit to the employee a list of physicians from whom the employee may choose.

Provisions found in some workmen's compensation acts requiring that the fees of the physicians be limited to such as are customary between physicians and patients in the particular walk of life in which the patient happens to be may be considered as unfair to the physician by requiring him to adopt the same charitable attitude in dealing with the employer that he might feel constrained to adopt when dealing directly with the patient.

There is unquestionably much ground for dissatisfaction on the part of the physician under existing conditions. Dr. Woodward's paper in particular gives much information on the subject.

LEGISLATIVE NOTES

A HEARING on House Bills 365 and 778 was held February 25th before the Committee on Public Health in the Auditorium of the State House.

House Bill 365 is an act to provide for the inclusion of persons practicing chiropractic within the operation of certain laws. House 778 is an act relative to persons engaging in the practice of chiropractic.

Six hundred persons in favor of chiropractic were present. They were represented by two attorneys in addition to a representative from the Palmer Chiropractic School, Davenport, Iowa.

The principles of chiropractic were outlined at length by the gentleman from Iowa who emphasized the fact that chiropractic did not come within the law, insofar as it was not the practice of medicine. He said that it was ridiculous to consider it as such—chiropractic was chiropractic. He explained the curriculum of his school and mentioned at great length the subjects which they taught.

The Secretary of the Legislative Committee appeared in opposition and called the attention of the Committee on Public Health to the decision of the Judge of the Supreme Court of Massachusetts who ruled that whoever accepts a fee for the alleviation of suffering or curing of a disease is practicing medicine within the meaning of the law.

He requested that the Massachusetts Medical Society and the Massachusetts Homeopathic Medical Society be recorded as objecting to the passage of these bills. Letters from the presidents of Massachusetts colleges, from medical directors of life insurance companies, from Chambers of Commerce, superintendents of hospitals, medical examiners and other influential citizens were presented to the Committee on Public Health emphasizing the principle of one standard for the fitness of persons to practice medicine in this state.

MISCELLANY

American Medical Association, Council on Pharmacy and Chemistry

The following preparations have been accepted by the Council on Pharmacy and Chemistry:

Mulford, H. K.—

Tuberculin Intracutaneous (Humay Type)

—Mulford

Parke, Davis & Co.—

Mercurosal Ampoules

E. R. Squibb & Sons—

Squibb's Liquid Petrolatum with Agar

United States Civil Service Examinations

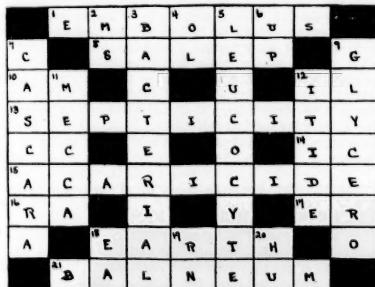
THE United States Civil Service Commission announces open competitive examinations for Junior Medical Officer, Assistant Medical Offi-

er. Associate Medical Officer, Medical Officer and Senior Medical Officer. These positions may be for Indian Service, Public Health Service, Coast and Geodetic Survey, Panama Canal or Veterans' Bureau, field service. Applications will be rated as received until June 30, 1925.

Announcement is also made of an open competitive examination for the position of Graduate Nurse and Graduate Nurse (Visiting Duty), for filling vacancies in the United States Veterans' Bureau and in the Indian and Public Health Services. Applications will be rated as received until June 30, 1925.

For information regarding any of these positions address United States Civil Service Commission, Washington, D. C.

SOLUTION FOR "A STORMY CONVALESCENCE"



Extracts from the January Bulletin of the Boston Health Department

Mortality in Boston

Deaths.—The total number of deaths from all causes during the year 1924 is markedly lower than in 1923 or 1922, in fact the death rate is the lowest for any year but one in the history of the city, that year being 1921.

Infant Mortality.—The infant deaths also show a reduction over previous years and taken together with an increase in the total number of live births gives an infant mortality rate of 74.62, which is the lowest in history; the nearest approach to the infant mortality rate of last year was in 1921 when 77.27 was reached. It is difficult to account for the rise in the infant mortality rate between 1921 and 1924, especially as it occurred in a period during which increasing attention was being paid to infant welfare work. Different factors, including an increase in mortality from congenital defectiveness, have been accountable for the rise.

Boston's actual infant mortality is really more favorable than would appear from the rates just quoted. During 1924, 19 per cent. of the children under one year of age who died in the city of Boston were non-residents of the city whose presence in the city was usually due

to the fact that they or their mothers came to Boston for hospital care. The percentage to which Boston's infant mortality is made up of deaths of non-resident infants is much greater than in the case of any other large city in the country. If the percentage of the deaths of non-resident infants was no greater in Boston than in New York, Boston's infant mortality would be among the lowest of any large city in the world.

Maternal Mortality.—The number of deaths of mothers who died during pregnancy shows a slight increase over 1923, but is probably without significance, as marked fluctuations have been occurring from year to year in the recorded deaths of mothers during pregnancy.

There may be noticed a similar increase in deaths from premature births as compared with 1923, but as recorded deaths from this cause are also subject to marked fluctuations, the increase during last year has probably no practical significance.

Communicable Diseases.—Recorded deaths from pulmonary tuberculosis during the year indicates that the decrease in the death rate from this disease, which has been noticeable during the past few years, is still continuing.

HEALTH CONDITIONS IN BOSTON DURING THE YEAR 1924

Births and Deaths

(The figures include residents and non-residents)

	Year		
	1924	1923	1922
Number of deaths (all causes)	10,933	11,503	11,423
Death rate per 1000 population	14.07	14.93	19.95
Live births	19,700	19,020	18,552
Birth rate per 1000 population	25.36	24.69	24.28
Infant deaths	1,470	1,569	1,720
Infant mortality rate	74.62	82.5	92.7
Deaths of mothers due to pregnancy	145	137	156
Death rate per 1000 live and stillbirths	7.1	7.0	8.1
Total Deaths from			
Heart disease	1,741	1,880	1,765
Cancer	1,189	1,142	1,123
Accidental and violent deaths	785	805	797
Cerebral hemorrhage	747	705	644
Nephritis	572	649	646
Arteriosclerosis	387	404	498
Premature birth	375	355	373
Alcoholism	204	170	117
Diarrhea and enteritis (under two years)	164	148	216
Broncho-pneumonia	541	678	601
Total deaths over 60 years of age	3,994	4,265	4,066

The Principal Communicable Diseases, with Comparisons for the Two Previous Years

Some Communicable Diseases	Cases			Deaths		
	1924	1923	1922	'24	'23	'22
Typhoid fever	101	120	116	16	10	11

Pulmonary tuberculosis	1,870	1,633	1,993	669	677	724
Diphtheria	2,521	3,257	2,992	168	173	143
Lobar pneumonia	1,565	1,311	1,391	480	635	669
Measles	4,758	5,023	5,356	44	57	46
Scarlet fever	3,910	3,211	1,793	51	58	45
Whooping cough	655	2,034	1,567	21	109	84
Influenza	127	372	1,887	30	97	66
Anterior poliomyelitis	76	48	49	6	10	11
Cerebrospinal meningitis	35	35	24	19	22	11
Tuberculosis and other forms	382	338	357	125	114	119

Artificial Larynx

AN artificial larynx of rubber, according to "The India Rubber World," has been developed in the laboratories of the American Telephone & Telegraph Co. and the Western Electric Co. By the use of this device, which is fastened to the healed wound, individuals who have had a laryngectomy performed are able to talk distinctly again.

Prendergast Camp

THE Prendergast Camp Committee of the Boston Tuberculosis Association wishes to notify all physicians that Boston children may be admitted to Prendergast Preventorium, if the following requirements are complied with:—(a) Children must live in Boston, have been exposed to consumption, have positive reaction to the Von Pirquet test, and be between the ages of five and twelve; (b) In the winter months, there is accommodation for twenty-one girls, but, in summer, by means of a tent colony, fifty boys, and fifty girls receive care at the Preventorium; (c) All patients are free and there is no time limit placed upon their stay at the Preventorium; (d) The Medical Advisory Committee decided last year that it would be well if dental repairs and adenoid and tonsil operations were completed before the children were admitted to the Preventorium.

Although in the past all the applicants for treatment have been received from the various Out-Patient Departments in the city, there is no reason why any private physician should not make application for the admission of his patients to the Preventorium. The application blanks may be secured from the office of the Boston Tuberculosis Association, 25 Huntington Avenue, room 607, telephone Back Bay 10504. These are passed upon by Dr. Eli Friedman, the Preventorium physician.

GEORGE S. HILL, Chairman,
Prendergast Camp Committee.

A Commission to Study Cancer

A COMMISSION to study Cancer to consist of international medical authorities has been appointed by the Health Committee of the League of Nations. The Commission will consist of Sir George Buchanan as Chairman, and Dr.

Lutrarie, an Italian; Dr. Jitta of the Netherlands, Professor Leon Bernard and Dr. Carriere of France.—*League of Nations News Bureau, Maintained by The League of Nations Non-Partisan Association.*

Harvard University

At a meeting of the President and Fellows of Harvard College, February 24, 1925, it was voted to award the Moseley Travelling Fellowships to Dr Henry Field, Jr., and Tracy B. Mallory for 1925-1926.

RECENT DEATHS

BROIDRICK.—Dr. JAMES PATRICK BROIDRICK, a retired Fellow of the Massachusetts Medical Society, died at his home in Jamaica Plain, February 26, 1925, aged 76.

Dr. Broidrck was a graduate of Jefferson Medical College in the class of 1869. He settled in Jamaica Plain in 1884 and joined the State medical society, being placed on the retired list in 1914. Besides his regular practice he was for some time a school physician in the Jamaica Plain district. He was a member of the American Medical Association and was also a founder of Carroll Court, M. C. O. F. Besides his widow, Mrs. Margaret Broidrck, he leaves a son, Thomas J., of New York.

FINCH.—Dr. EDWARD BRONSON FINCH, a Fellow of the Massachusetts Medical Society, died at his home in Greenfield, March 1, 1925, aged 54.

Dr. Finch, the son of the Rev. Peter V. Finch, formerly rector of St. James' Episcopal Church in Greenfield, was born in Greenfield and educated at Trinity College, where he took his A.B. in 1891 and A.M. in 1894.

After graduating from the College of Physicians and Surgeons, Columbia, in 1894, Dr. Finch settled in New York City, where he practised until 1920, devoting himself largely to dermatology.

He was survived by his widow and a daughter.

MAGUIRE.—Dr. CHARLES FRANCIS MAGUIRE died at the Somerville Hospital, where he was a member of the surgical staff, February 28, 1925, at the age of 52, after an illness of two weeks.

He was a native of Cambridge, attended Somerville schools, and was graduated from Boston College in 1893 and Harvard Medical School in 1897. He served as house officer at the Carney Hospital. Dr. Maguire is survived by his widow, Mrs. Margaret L. Maguire, two sons, three daughters, three brothers and two sisters. One brother, Dr. Eugene L. Maguire, a Fellow of the Massachusetts Medical Society, is a practising physician in Somerville.

Dr. Maguire was a Fellow of the American Medical Association and of the Massachusetts Medical Society, also a member of the Somerville Lodge of Elks and vice-president of the Somerville Co-operative Bank.

PENROSE.—The death has been reported of Dr. CHARLES BINGHAM PENROSE of Philadelphia, brilliant gynecologist, author of a standard textbook, and brother of the late Senator Boies Penrose of Pennsylvania.

Dr. Penrose died suddenly February 27, 1925, in his drawing room on a train near Washington, D. C., while returning from Aiken, S. C. He was in the Harvard class of 1881 and a graduate in medicine at the University of Pennsylvania in 1884. He was 63 years old.

NEWTON.—DR. AARON LEWIS NEWTON of Northfield, a Fellow of the Massachusetts Medical Society, died at the Corey Hill Hospital, Brookline, January 24, 1925, at the age of 59.

He was a graduate of Albany Medical College in 1898 and settled in Northfield the following year. Of late years he had practised ophthalmology. He was a Fellow of the American Medical Association.

CORRESPONDENCE

AMERICAN MEDICAL ASSOCIATION

COUNCIL ON PHARMACY AND CHEMISTRY

Editor, Boston Medical and Surgical Journal:

In addition to the articles enumerated in our letter of December 27, 1924, the following have been accepted:

Benzol Products Company—
Cinchophen—B. P. C.

Hynson, Westcott & Dunning—

Antimony Sodium Thioglycollate

Antimony Thioglycollamide

Eli Lilly & Co.—

Iletin (Insulin—Lilly) U-10, 10 c.c.

Iletin (Insulin—Lilly) U-20, 10 c.c.

Iletin (Insulin—Lilly) U-40, 10 c.c.

H. K. Mulford Company—

Ampules Solution Pituitary Extract—Mulford, 0.5
c.c.

Iodo-Casein with Chocolate

Parke, Davis & Co.—

Iron Citrate Green:

Ampules Iron Citrate Green—P. D. & Co.,
1/4 grain

Ampules Iron Citrate Green—P. D. & Co.,
3/4 grain

Ampules Iron Citrate Green—P. D. & Co.,
1 1/2 grain

Mercurettes

Proposote:

Proposote Capsules 5 minims

Proposote Capsules 10 minims

Powers-Weightman-Rosengarten Company—

Tryparsamide

Pure Gluten Food Company—

Hoyt's Protein Cereal

Sharp & Dohme—

Tincture Digitalis Purified (Fat Free)—S. & D.

Standard Chemical Company—

Standard Radium Solution for Intravenous In-
jection, 5 micrograms Ra

Standard Radium Solution for Intravenous In-
jection, 10 micrograms Ra

Standard Radium Solution for Intravenous In-
jection, 25 micrograms Ra

Yours truly,

W. A. PUCKNER, Secretary,
Council on Pharmacy and Chemistry.

RHODE ISLAND STATE BOARD OF HEALTH
CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING

JANUARY 10, 1925

Diphtheria	Chickenpox	
Barrington	1 Cranston	1
Central Falls	1 Pawtucket	9
Newport	2 Providence	5
Middletown	2 Providence	5
Pawtucket	5 Little Compton	2
Providence	15 Westerly	1
		—
	26	18

	Mumps	Pneumonia	
Providence	1 Cranston	1	
	Pawtucket	1	
	Coventry	1	
Scarlet Fever	2	Typhoid Fever	
Pawtucket	9	Providence	1
Providence	1	German Measles	
Warwick	3	Barrington	3
Westerly	15	Whooping Cough	4
	Providence		4

CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING JANUARY 17, 1925

	Diphtheria	Scarlet Fever	
Newport	1 Providence	10	
Providence	11 Pawtucket	2	
East Providence	1 Woonsocket	5	
Portsmouth	1 North Providence	1	
West Warwick	1 Westerly	3	
	Central Falls	1	
	Coventry	1	
	Cranston	1	
	Newport	1	
German Measles	1 Little Compton	2	
Providence	1 East Greenwich	1	
Barrington	1 East Providence	1	
	Whooping Cough	—	
Providence	1	29	
Ophthalmia Neonatorum	Providence	Typhoid Fever	3
Providence	1	Influenza	
	Measles	Providence	2
Providence	3 Coventry	4	
Lincoln	3	Chickenpox	
	Septic Sore Throat	North Smithfield	1
Providence	1	Pneumonia	
	Mumps	Cranston	2
Providence	1 Providence	1	
Scituate	14 Coventry	1	

CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING JANUARY 24, 1925

	Diphtheria	Scarlet Fever	
Central Falls	1 Barrington	1	
Providence	6 Woonsocket	8	
Bristol	1 Providence	11	
East Providence	1 East Providence	2	
Johnston	1 Little Compton	2	
	South Kingstown	5	
10 Westerly	2		
	Pneumonia	31	
Cranston	1 Measles		
Providence	1 Providence	3	
Cumberland	4 Woonsocket	1	
	Lincoln	3	
	Typhoid Fever		
Providence	3 Whooping Cough	2	
	Providence		
	German Measles		
Barrington	1 Chickenpox		
Charlestown	3 Charlestown	3	

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

DISEASES REPORTED FOR THE WEEK ENDING JANUARY 31, 1925

Diseases	No. of Cases	Diseases	No. of Cases
Anterior poliomyelitis	2	Encephalitis lethargica	6
Chickenpox	310	Epidemic cerebrospinal meningitis	3
Diphtheria	121	German measles	203
Dog-bite requiring anti-rabic treatment	15	Gonorrhea	100
		Influenza	21

Measles	322	Suppurative conjunc-
Mumps	75	titis
Ophthalmia neonato-		Trichinosis
rum	45	Tuberculosis, pulmo-
Pneumonia, lobar	137	nary
Scarlet fever	352	Hilum tuberculosis
Septic sore throat	2	Tuberculosis, other
Syphilis	40	forms
Tetanus	1	Typhoid
		Whooping cough

CONNECTICUT DEPARTMENT OF HEALTH

MORBIDITY REPORT FOR THE WEEK ENDING

JANUARY 31, 1925

(Including all cases reported before 11 A. M., Monday, February 2, 1925)

Diphtheria	New Haven	25
Fairfield County	Orange	1
Bridgeport	Waterbury	6
Danbury (C)	New London County	
Fairfield	Groton (B)	1
Norwalk	Jewett City	1
Stamford (C)	Norwich (C)	1
Stratford	Stonington	1
Hartford County	Tolland County	
Berlin	Ellington	2
Hartford	Rockville	3
New Britain	Windham County	
West Hartford	Putnam (C)	1
Wethersfield		
New Haven County	State total	164
Ansonia	Last week	183
Meriden (C)		
Wallingford (B)	Typhoid Fever	
Waterbury	Hartford County	
Windham County	Berlin	1
Sterling	Hartford	1
—	Manchester	2
State total	Suffield	1
Last week	Middlesex County	
The following diphtheria bacilli carriers were reported:	Saybrook	1
Farmington	New London County	
Hartford	Preston	1
New Britain		
Waterbury	Measles	

Scarlet Fever

Fairfield County	Fairfield County
Bridgeport	Bridgeport
Danbury (C)	New Canaan
Fairfield	24 Hartford County
Shelton	West Hartford
Stamford (C)	Middlesex County
Stratford	Chester
Hartford County	Old Saybrook
Berlin	Saybrook
Bristol	New Haven County
East Hartford	Derby
Farmington	Milford
Hartford	New Haven
Manchester	North Haven
New Britain	10
Southington	9 Wallingford (B)
Wethersfield	1 Manchester
Litchfield County	9 New London County
Harwinton	24 Stonington
Litchfield	1 Southington
Thomaston	1 State total
Middlesex County	124
Portland	Last week
New Haven County	42
Ansonia	Whooping Cough
Beacon Falls	Fairfield County
East Haven	Bridgeport
Guilford	Greenwich
Hamden	Stamford (C)
Meriden (C)	Hartford County

LITCHFIELD COUNTY

Norfolk	2
Thomaston	1
Middlesex County	
Chester	6
Clinton	1
Portland	1
New Haven County	
Guilford	1
Hamden	2
New Haven	5
Waterbury	3
New London County	
Groton (B)	2
Tolland County	
Hebron	5
	—
State total	77
Last week	67

Other Communicable Diseases

Cerebrospinal men.	1
Chickenpox	75
Encephalitis epid.	2
German measles	16
Influenza	7
Mumps	36
Ophthalmia neo.	1
Pneumonia (broncho)	45
Pneumonia (lobar)	50
Septic sore throat	4
Trachoma	1
Tuberculosis (pul.)	28
" (other forms)	1
Gonorrhea	43
Syphilis	55

RHODE ISLAND STATE BOARD OF HEALTH

CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING JANUARY 31, 1925

Diphtheria Scarlet Fever

Cranston	1
Pawtucket	2
Providence	14
Woonsocket	1
Coventry	5
—	—
East Providence	1
Coventry	2
Portsmouth	1
Richmond	4
Smithfield	3
Warwick	1
Westerly	3
—	—
10	38

Measles

Providence	4
Barrington	1
Charlestown	4
East Greenwich	1
—	—

Whooping Cough

Providence	1
Pawtucket	1
Hopkinton	1

Pneumonia

Mumps	1
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Cumberland Scituate

—	—
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CONTAGIOUS DISEASES REPORTED FOR THE WEEK ENDING FEBRUARY 7, 1925

Diphtheria	Scarlet Fever
Pawtucket	3 Newport
Providence	9 Pawtucket
Newport	2 Providence
Coventry	3 Woonsocket
Lincoln	1 Charlestown
—	1 Cumberland
18 North Smithfield	1
Richmond	2
Warwick	1
Westerly	3
—	—
31	—

Measles

Providence	3 Warwick
Barrington	1
Lincoln	1
North Kingstown	1
—	—

Whooping Cough

6 Cranston	1
Providence	2

German Measles

Charlestown	8
Warren	8
Westerly	3
—	—
19 Portsmouth	1

Chickenpox

8 Cranston	1
Pawtucket	6
—	5
Portsmouth	1
—	—

Influenza

2 Coventry	2
—	—

Mumps

Cranston	1
Westerly	1

Pneumonia

Cumberland	2
—	—

NEWS ITEMS

The Annual Meeting of the American Medical Association

The New York, New Haven and Hartford Railroad Company has made arrangements to transport those who are planning to attend the Convention of the American Medical Association and Affiliated Societies to be held in Atlantic City, N. J., May 22-29, 1925, for which a fare and one-half for the round-trip on the Identification Certificate Plan has been authorized—tickets to be sold May 20 to 26, with final return limit of June 5.

Attention is called to the through service between Boston and Philadelphia, with convenient connecting trains from Philadelphia to Atlantic City; also, daily service between Boston and New York via the Fall River Line and frequent train service beyond.

National Committee for Mental Hygiene

The National Committee for Mental Hygiene has added two new medical members to its staff: Dr. George K. Pratt, as Assistant to the Medical Director; and Dr. Ralph P. Truitt, as Director of the Division on the Prevention of Delinquency, to succeed Dr. Victor V. Anderson, resigned.

Dr. Pratt was for the last three years Medical Director of the Massachusetts Society for Mental Hygiene. Dr. Truitt was formerly Medical Director of the Illinois Society for Mental Hygiene, and during 1924 directed the National Committee's Child Guidance Demonstration Clinic at Los Angeles, California.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

REPORTS AND NOTICES OF MEETINGS

Harvard Medical School, Department of Psychiatry, Voluntary Course

To be given in the Boston Psychopathic Hospital, March, 1925, Tuesdays and Thursdays at 2 P. M. (Tuesdays in the library of the Hospital and Thursdays in the Assembly Hall.)

March 3. The Principles and Methods of Psychotherapy—I. Dr. Martin W. Peck.

March 5. The Medico-Legal Aspects of Mental Disorder. Dr. Carl M. Bowman.

March 10. The Principles and Methods of Psychotherapy—II. Dr. Martin W. Peck.

March 12. The Psychopathology of Child-

hood (Clinical Demonstration). Dr. C. Macfie Campbell.

March 17. The Principles and Methods of Psychotherapy—III. Dr. Martin W. Peck.

March 19. The Pathological Anatomy of the Organic Psychoses. (Lantern Slides.) Dr. Harry Solomon.

March 24. The Principles and Methods of Psychotherapy—IV. Dr. Martin W. Peck.

March 26. Mental Tests in School and Industry. Dr. F. L. Wells.

Harvard School of Public Health

Dr. Zinsser's course in Public Health Bacteriology began on Monday, March 2nd.

Meeting of the Harvard Medical Society

The Harvard Medical Society met at the Peter Bent Brigham Hospital on Tuesday evening, February 24th.

An unusual case of appendicitis was demonstrated. The patient, a colored man of twenty-three years, came to the hospital complaining of acute pain in the right lower quadrant of the abdomen. He had complete loss of appetite but no nausea or vomiting. Examination showed marked tenderness of the abdomen with spasm of the right side. Upon operation, a normal appendix was removed. The microscopic examination showed free metallic mercury in the lumen of the appendix. The patient had shown no characteristic signs of mercury poisoning. About two months before the operation, he had swallowed a mixture of whiskey and mercury. This case was demonstrated as a unique type of appendiceal colic.

Dr. Channing Frothingham called the attention of the meeting to a Senate bill, now under consideration, which, if passed, will effect some desirable changes in the regulations governing the registration of physicians as well as those in other professions in this state. The bill provides for proportionate representation on the Board of Registration. It also empowers the Board to refuse to examine candidates for registration from inferior medical schools. Legislation affecting these schools has apparently lagged in Massachusetts. In 1910, there were forty-five disreputable medical schools in the United States. At the present time there are only six and three of these are in Massachusetts. Dr. Frothingham urged all to give the proposed bill their heartiest support.

Dr. Francis G. Benedict gave an address and demonstration on "Some New Phases of Metabolism Technique." His so-called student form of respiration apparatus measures the oxygen intake over a given period and from this result the metabolic rate is easily determined. No gas analysis is necessary unless one wishes to determine the respiratory quotient and this is seldom required. As the oxygen is used, it is replaced

with air forced in by an attached pump. The volume of the pump is known, and from this volume, the quantity of oxygen absorbed is easily deduced. There is no error introduced through variations in the humidity of the enclosed gases, since the measured air pumped in to replace the oxygen, is dried by passage through a calcium chloride tube. Temperature and time are the only factors that must be accurately observed.

Dr. Benedict demonstrated a simplified form of this apparatus, weighing only four and one-half pounds, that may be used to determine the metabolism when the subject is walking about. Another type of the apparatus is worn on the back while the subject does more strenuous exercise, such as climbing stairs. This is also of a convenient size and weighs only nine pounds. Recently he has been using this to determine the energy used in climbing the twelve stories in the Merchants' National Bank. For every foot of vertical ascent, 44 c.c. of oxygen were required. This is approximately three times the amount of oxygen a person would use if lying quiet.

A similar apparatus may be used to determine the energy of combustion of different kinds of food. The food is placed within a hard glass chimney connected with the oxygen chamber and is ignited by means of a high resistance wire. The oxygen is kept in circulation by means of an electric blower. By this device, the heat of combustion may be determined within an error of two per cent. The method will also be used for determining the amount of unused food in dried feces.

Dr. William P. Murphy addressed the meeting on "The Determination of Biliary System Function." This function is to be distinguished from the liver functions. Today, there are five generally recognized functions of the liver:—

- (1) Storage of glycogen.
- (2) Storage of fat.
- (3) Storage of protein and probably the breaking up of protein as in urea formation.
- (4) Cleaning the blood of red cells that have been destroyed in the liver or elsewhere.
- (5) Detoxication—such as removal of heavy metals from the system.

There is no one test for all these functions. Various tests have been devised, such as the blood lipose test, the levulose test, the hemoplasma crisis test determination of the bilirubin content of the serum, and the test with dyes excreted by the liver. Most of these do not test for liver function but for biliary system function. The one most generally accepted is that with the dye phenol tetrachlorphenolphthalein. This dye is injected into the blood and the amount remaining there after fifteen minutes, as determined by a comparison of the serum with a series of standards, is indicative of the excretory power of the liver. It is particularly valuable in estimating the degree of dysfunction of some part of the biliary system. It determines

the actual amount of biliary system stasis. In well defined cases, however, clinical observations are equally reliable. A test is needed that will work in border-line cases, where signs and symptoms are not perfectly evident.

The *icterus-index* test that has been worked on in Copenhagen seems to be the most promising. This depends on a colorimetric method of determining the amount of bilirubin in the blood serum.

Dr. Murphy has tried a different method of obtaining the *icterus index*. In this he uses a series of dilutions of bichromate as standards. The unhemolyzed blood serum of the patient is compared with these standards. The test is simple to carry out and proves to be more accurate than the colorimetric method. Slight cloudiness or hemolysis in the serum renders the readings difficult and inaccurate. A few precautions are necessary to avoid these disturbing factors. The serum must be taken after the patient has fasted five or six hours and must be received into a dry syringe and needle. The blood is allowed to clot, is centrifuged and then the serum is compared directly with the bichromate standards.

In a parallel series of tests using both this method and the phenoltetrachlorphenolphthalein, Dr. Murphy found that the results compared fairly accurately in the information they gave. The *icterus test* was found to be much better, however, in cases that were more nearly normal.

The normal *icterus index* is 4 to 6. In a series of cases of cirrhosis, the retention of bilirubin varied from normal to 18 per cent. above normal. In cases of pernicious anemia, the index ranged from 9 to 35. In secondary anemia, the index was below normal. In a series of ten cases of gall-bladder lesions, six gave a high *icterus index*. In the remaining four, the index was not high, but in these cases there had been no attacks for at least two weeks preceding the time of the test, so that the blood had time to return to normal. The X-ray gave positive evidence of a gall-bladder lesion in only three out of six of these cases. In a series of doubtful cases, four gave high *icterus index* readings, whereas the X-ray was negative in all of them. Catarrhal jaundice gave the most definitely high readings ranging from 35 to 125. Carcinoma of the pancreas and chronic myocarditis are other conditions in which high readings were found.

Dr. Murphy gave the following general conclusions as to the value of this test for biliary system function:—

- (1) It is simple and accurate.
- (2) Of considerable value as an aid in diagnosis of biliary tract disease, possibly the best aid, with the exception of the cholecystogram.
- (3) May be used in anemias to distinguish between primary and secondary anemia.

(4) Determines the degree of dysfunction of the biliary system in incipient cases and enables one to follow the onset and variation of jaundice before it shows in the skin.

Joint Meeting of Medical Societies at Boston Medical Library

A JOINT meeting of the surgical sections of the Suffolk District Medical Society, the Middlesex South Medical Society and Boston Medical Library was held on Wednesday evening, February 25th, at the Boston Medical Library. Dr. H. L. Hutchins presided. Dr. Arthur H. Crosbie presented a paper on pyelo-nephritis. Following Dr. Crosbie's address, Dr. Channing Frothingham, Dr. E. Granville Crabtree, Dr. Richard M. Smith and Dr. Kurt Thoma discussed the various phases of the subject.

Dr. Crosbie defined pyelo-nephritis as any bacterial invasion of the kidney. It involves not only the pelvis but also the tubules and often extends to the cortex. It includes infectious nephritis and the so-called pyelitis.

There are certain axioms to lay down with reference to pyelo-nephritis:

(1) This condition, occurring in an otherwise normal kidney, unless caused by the tubercle bacillus, tends to get well.

(2) Recurrent attacks should be investigated by pyelograms.

(3) With recurrence—look for focal infections in the teeth, tonsil and intestine.

(4) The kidney may be destroyed by this disease without pain.

(5) The urinary sediment should be examined for some time after the patient seems to be well.

Any of the pus-producing bacteria may be the active factor, but most commonly it is the colon bacillus. In many cases the streptococcus is the original offender but is outgrown by the colon bacillus, so that it is seldom found. The streptococcus viridans seems to have a specificity for renal tissue. Improvement has been noted in cases of pyelo-nephritis, after removal of devitalized teeth that were harboring this organism.

Dr. Crosbie is of the opinion that all devitalized teeth should be removed. It is a mistake to exclude the teeth as a focus of infection simply because apical abscesses are not demonstrated by the X-ray. Devitalized teeth act almost as foreign bodies to the gums and are very apt to harbor an infectious process. For the same reason, the removal of tonsils often stops recurrent attacks of pyelo-nephritis.

Some of the factors that favor the onset of this condition are:—chill around the buttocks, direct trauma of the kidney, stones in the urinary tract or anything that hinders the flow of urine such as stricture, enlarged prostate and gravid uterus. It is generally accepted that in-

fection reaches the kidney through the blood stream, although Graves' Work shows the possibility of an ascending infection.

In acute cases, pus and red cells are usually found in the urine. Casts, as a rule, are absent. In the acute febrile stage, the white cell count of the blood is high. Symptoms vary greatly in this disease. Many cases complain of nothing but frequency, while others may have severe pain and prostration. A plug of mucus passing down the ureter may produce symptoms like those caused by the passage of a stone, that is—severe pain, chills and high fever. In severe attacks the temperature is always high and of a septic character. Pain is not usually a prominent symptom, but as a rule there is local tenderness over the kidney. Careful examination of the urine discloses the process when no other symptoms may. In chronic cases, frequency of urination may be the only symptom. The urine may be clear, but a few pus cells and bacteria may be found in the sediment. A careful examination of a catheter specimen of urine and pyelograms are the most valuable aids in the diagnosis of a chronic condition.

In the treatment of acute cases, it is well to increase the output of urine up to one hundred ounces per twenty-four hours. The administration of alkali to render the urine alkaline is especially helpful in colon bacillus infections. It is best to acidify the urine again after the acute stage is over by giving hexamethylenamine. There is no need of catheterizing in acute cases unless there is evidence of hydronephrosis. Operative interference is seldom necessary in pyelo-nephritis. Nephrotomy may be indicated in some cases, but rarely, if ever, is nephrectomy desirable. Pyelo-nephritis of pregnancy sometimes makes it necessary to empty the uterus. Generally a miscarriage will occur without aid.

In all cases, a search for sources of infection should be carried out. If pus cells and red cells do not tend to disappear, a pyelogram should be done. Recurring attacks of pyelitis in children should be carefully investigated.

The treatment of chronic cases is usually satisfactory. Pelvic lavage and bladder dilatation are very helpful. Silver nitrate or mercurochrome is commonly used for pelvic lavage. It is of great importance to follow the urinary sediment after all cases of pyelo-nephritis.

Dr. Channing Frothingham opened the discussion on Dr. Crosbie's paper. He spoke on the pre-disposing causes of pyelo-nephritis. With regard to foci of infection, the evidence against their significance in such conditions as arthritis, gastric ulcer, pyelitis, malignant endocarditis and acute rheumatism is accumulating. Bacteria are all the time passing through the kidney. Some condition must allow them to gain a foothold. The acidity or alkalinity of the urine may be an important factor. More work is needed along this line.

Dr. Frothingham raised the question of regulation of diet in pyelo-nephritis. He is of the opinion that it is of no importance. We have very little evidence that protein and salt tend to aggravate the lesions of acute nephritis.

Dr. E. G. Crabtree, in speaking of various factors that affect the course of the disease, pointed out that foci of infection elsewhere in the body reduce the resistance of the individual and thus prolong the kidney condition. A kidney cannot be cured if there is any restriction to drainage, such as enlarged prostate or stricture. Cystoscopic and fluoroscopic examination are useful in detecting an obstruction. The cure of an infection with obstruction is surgical.

Dr. Crabtree is of the opinion that a urinary antiseptic that will be effective when administered by mouth is not apt to be discovered. Lavage must be used in chronic cases. Patients should be treated until the urine is bacteria-free and pus-free, rather than until they are comfortable. Extreme diets, as part of treatment, are to be condemned.

Dr. R. M. Smith spoke of the various types of pyelo-nephritis in children. There are three types. First, the ordinary acute infection or so-called pyelitis. From this, there is almost invariable recovery, irrespective of treatment. A very high temperature is one of the most striking symptoms of this infection. In infants under six months, a chill is almost pathognomonic of this condition. There is usually tenderness, but often very little pain. The infection is often overlooked because of the difficulty of obtaining a urinary specimen in small children.

The second type of the disease in children is the recurring type. Foci of infection prevent a return to a good general condition and should be removed if possible.

The third type is the recurring attack that does not get well, when foci have been removed. If the infection doesn't clear up, one must look for some congenital or mechanical hindrance by use of the pyelogram, etc.

Dr. Kurt Thoma spoke of dental foci of infection in relation to pyelo-nephritis. In experiments performed on rabbits, it has been shown that infected teeth, implanted into the tissue of the rabbit, may produce no local reaction and yet result in a pyelo-nephritis. Toxins formed in infected teeth may do as much harm or more than the bacteria, by sensitizing certain tissues and preparing others for more ready invasion.

The size of an abscess is not an indication of its danger as a focus of infection. Those abscesses which show little or no bone absorption are usually the most dangerous. Bad teeth should be removed if the individual has a history of abnormal susceptibility to infections.

A general discussion followed in which a number participated. Dr. W. C. Quinby stated that he believed new light would be thrown on the subject of pyelo-nephritis by the study of the

individual infecting organisms. This may give an opportunity to make specific attacks on specific groups of organisms. The acid and alkaline characteristics of these organisms may be of some significance. Dr. Quinby is optimistic with regard to the prospects of finding an effective antiseptic that can be administered by mouth. Such a drug would have decided advantages over antisepsics used by pelvic lavage. This latter treatment can only be intermittent whereas treatment by mouth would exert a continuous effect. The antiseptic does not penetrate deeply in the lavage method. Mercurochrome and hexalresoroin are still in the experimental stage as "mouth" antisepsics, but one of these or some substance, yet to be discovered, may prove to be of value.

Berkshire District Medical Society

The regular meeting was held in the rooms of the Park Club of Pittsfield, on Thursday, March 5th, 1925.

Speaker: A. A. Berg, M. D., of New York city. Subject: "Essential gastric hemorrhage; its relation to gastric and duodenal ulceration." Illustrated by lantern slides.

Discussion was opened by John Birnie, M.D., of Springfield, Edgar Vander Veer, M.D., of Albany, Leo Neuman, M.D., of Albany, and James E. Sadlier, M.D., of Poughkeepsie.

J. A. SULLIVAN, M.D., President.
A. P. MERRILL, M.D., Secretary.

Norfolk South District Society Meeting

A STATED meeting of the Norfolk South District Medical Society was held at the Norfolk County Hospital on February fifth. The Society was honored by a visit from Dr. Enos H. Bigelow, President of the Massachusetts Medical Society.

Records of the last stated meeting and of a special meeting held January twenty-first read and approved.

Resolutions on the death of Dr. Vinson M. Tirrell were read and accepted.

Letter from Gorgas Memorial Institute outlining its plans and asking for a contribution of one hundred dollars read. No action taken.

Letter from the Committee on Medical Education and Medical Diplomas relative to Senate Bill No. 19 read. Following comments on the proposed changes in the Registration Laws by Dr. Bigelow, several members agreed to request support of this bill by local Senators and Representatives.

Letter from Dr. Bigelow relative to the proposed Academy of Medicine read by the President and commented on by Dr. Bigelow. No action taken.

The Nominating Committee reported the following Nominations which will be acted upon at the May Meeting. For Councillors: C. S. Adams, Nominating; C. A. Sullivan, Alternate;

O. H. Howe, D. A. Bruce. For Censors: C. S. Adams, J. H. Ash, W. J. McCausland, J. M. MacLeod, J. C. Fraser. Commissioner of Trials: N. S. Hunting.

This completing the business session, Dr. Francis W. Palfrey now presented a very excellent and interesting paper on "Indigestion, so called, from a Medical Standpoint." (This paper appears below.)

Following discussion of Dr. Palfrey's paper, dinner was served in the hospital dining room.

N. R. PILLSBURY, *Secretary.*

"INDIGESTION"

BY FRANCIS W. PALFREY, M.D., BOSTON

The organic diseases of the stomach, excluding rarities, are three; cancer, peptic ulcer and pyloric stenosis.

At the opposite extreme stand the pure neuroses, in which the symptoms of indigestion are entirely secondary to disorder in the head. But between these extremes, and overlapping both the neuroses on the one hand, the organic diseases on the other, are a series of rather vague types of indigestion in which there are no known changes of pathological anatomy, but in which there is reason to believe that there are real local causes for the discomfort complained of.

In treating such disorders it is of considerable advantage to trace the probable mechanism of the symptoms and to identify, so far as possible, the disorders of function upon which they are based.

The identification of the exact cause of symptoms is not always easy, even after all objective tests including X-ray examinations have been made. But in practical work there are a good many simple sources of evidence that enable us to obtain a probable understanding of what is wrong, so as to make our management more rational.

In my dealings with dyspeptics I have been led to believe in the following as the three commonest underlying causes of gastric discomfort.

- 1—Deficient or inhibited gastric function.
- 2—Irritated or inflamed mucous membrane.
- 3—(more or less connected with two) A disturbed state of the stomach in relation to its gaseous contents.

These three abnormalities seem to be associated with characteristic symptoms as follows:

Deficient or inhibited gastric function is usually associated with poor appetite, with a sense of weight after eating, and with a tendency to nausea which sometimes leads to vomiting of little-digested food.

Irritated or inflamed mucous membrane, such as was seen a hundred years ago by Beaumont in his patient St. Martin, is strongly suggested as the cause of burning sensations (pyrosis) of various grades up to actual pain and, in ex-

treme instances, of vomiting which is not preceded by nausea and is more or less voluntary for the relief of discomfort.

Disturbance involving the gaseous contents of the stomach has its chief manifestation in a sense of increased pressure within the stomach.

Based upon these three factors it has seemed to me that the following types of "indigestion" can often be recognized among the great confusion of individual varieties.

1. *Gastric asthenia* (term which I have coined because of the abuse of the expression "gastric neurosis"). This condition seems to be the most usual accompaniment of neurasthenia or fatigue. Its presenting symptoms are disinclination to eat, sense of weight in the stomach after eating, and nausea. The most effectual treatment is apt to be a change of environment, or vacation, which is sometimes immediately curative. Where this is impossible, regulation of the mode of life, so as to relieve worry and overwork on the one hand, and so as to correct physical inactivity on the other, is indicated. The diet should be planned especially to tempt the appetite by means of soups, flavorings and delicacies, in direct contrast to the diet of hyperacidity and ulcer. For medication, bitter tonics, dilute hydrochloric acid and bromides are all of some value.

2. *Chronic gastritis*. This term, in my belief, should be applied to a larger proportion of the cases of indigestion than has hitherto been customary. It has been taught in the past that the diagnosis of gastritis should be made only when excess of mucus is demonstrable in the gastric contents, but this limitation seems to me unreasonably narrow. At least I can think of no better term for the condition of those patients who complain of sensations of irritation within the stomach which seem to be due to faulty habits of eating or drinking, to alcohol or to the habitual use of irritant drugs, and not to hyperacidity.

Pyrosis which is not always directly related to eating and is unrelieved by alkalis is a common manifestation. To this may be added vomiting unaccompanied by nausea for relief.

The treatment lies in discovering and, if possible, in removing the cause, and also in providing a diet which is as free as may be from irritating qualities. Among the causes are hurried eating of an improper diet, with insufficient mastication; too hot and too cold food and drink; overuse of alcohol and of condiments. I am convinced that in many of these cases the symptoms are prolonged and aggravated by the use of dyspepsia medicines containing strong flavorings such as pepper-tea, peppermint, ginger, etc., and sodium bicarbonate.

There is an uncertain possibility that catarrhal inflammation similar to catarrh of other mucous membranes may be a factor in some cases.

The role of fermentation is also unsettled.

*Read before the Norfolk South District Medical Society, Norfolk County Hospital, South Braintree, Mass., February 5, 1925.

Contrary to the newspaper advertisements, *gas-forming* fermentation is certainly rare, but there are strong suggestions that *irritant-forming* fermentation may be commoner than is generally recognized. In the absence of convenient tests for acetic acid and butyric acid, there is a possibility that these may be commoner in gastric contents than has been taught.

In addition to remedying suggested causes, a diet should be advised which can be described roughly by saying that nothing should be included in it which could not be applied as a poultice to an abrasion or burn of the skin. Thus, salt, spicess and coarse foods are to be excluded in favor of milk, cereals, eggs, fresh meats, mashed vegetables, and other bland foods. It is usually better that not more than three meals per day should be taken at intervals of not less than five hours.

In these cases it is sometimes helpful for the patient to sip a glass of normal salt solution containing a teaspoonful of milk of magnesia half an hour before each meal. Other dyspepsia medicines are best discontinued.

Where there are suggestions of fermentation, the intervals between meals should be further lengthened, and there is sometimes improvement on taking sodium benzoate gr. x after meals.

3. "*Gas on the stomach*" is a common and frequently misunderstood cause of complaint. The gaseous content of the stomach is nothing but atmospheric air, and stomach which does not contain air is abnormal. The gas in the stomach, therefore, is not the result of gas-forming fermentation. When a patient complains of gas in the stomach, therefore, and is relieved by belching gas, it means that the stomach is intolerant of the air that is normally in it, and not that there is an excess of gas. This intolerance seems to be due, for the most part, to irritation from chronic gastritis or hyperacidity.

In some patients, especially those with ptosis of the stomach, the desire to belch is a mistaken one, as proved by the fact that in spite of this desire it can be seen by fluoroscope that there is very little gas in the stomach to be raised. In other patients, however, it is probable that there is a variation from normal of the cardiac orifice which makes satisfactory belching difficult. The most effectual treatment of "gas on the stomach" lies in measures to lessen the irritation of the stomach with, in addition, strict precautions against large meals, or against meals which are even of normal bulk. Thus, in addition to treatment of gastritis or hyperacidity, it is well to provide that the patient shall eat six small meals per day, and also that these meals shall be taken dry. The necessary fluid intake is to be made up by water between meals. Explanation that the condition is not due to an internal formation of gas often

results in the patient's paying less attention to it.

4. *Hyperacidity* occupies a vague position between the neuroses and peptic ulcer. A certain proportion of the cases are subject to symptoms or free from symptoms according to their environment or mode of life. Others have persistent symptoms not influenced by their habits. The proportion of the cases of hyperacidity which actually have undemonstrable ulcer is disputed.

The characteristic symptoms are a regular recurrence of pyrosis or pain at a regular interval after eating, relieved by alkalis; a sensation that the meal last taken ought to be passed out of the stomach sooner than it is; a consciousness, sometimes acted upon, that vomiting would give relief.

In treatment, a trial should be made of the effect of regulating the mode of life so far as is possible in the direction of calmness. The diet should be one excluding especially substances which are recognized to stimulate gastric secretion, particularly salt, spicess and flavorings of all kinds, fried foods, gravies, pastry, etc. In pronounced instances the diet should be given in six or more divisions per day, even up to the diet of gastric ulcer.

Magnesium oxid, calcium carbonate, and bismuth subcarbonate are all of value for the temporary relief of discomfort. Sodium bicarbonate is more effectual than any of these on single occasions but its use is best limited if a substitute will serve because sodium bicarbonate is probably capable of causing continued irritation.

In typical cases of not too long standing a preparation of bile or bile salts in a form which will pass through the stomach before it is dissolved commonly results in a diminution of the symptoms. Glycotauro tablets (N. N. R.) and "Tabloid" ox-bile in the newer white coating are satisfactory. I have been in the habit of giving nine to twelve of these tablets a day for a week, and then three each morning for a month or more.

5. In *peptic ulcer* the treatment is so standardized that I shall not take time to discuss it except to say that even in ulcer a trial of the bile treatment deserves to be made.

6. In *pyloric stenosis* of pronounced grade from any cause the treatment is surgical unless a brief attempt at systematic lavage and appropriate diet results in prompt improvement. Sometimes while operation is being considered there is a sudden change for the worse which makes operation impossible. Lately evidence has been brought forward that such symptoms may be due to an alkalosis resulting from the excessive use of sodium bicarbonate. Caution against the use of sodium bicarbonate in pyloric stenosis is, therefore, advisable.

7. The treatment of *cancer of the stomach* is either surgical, if there is any reasonable expec-

tation that a satisfactory prolongation of life will result, or the palliative management of a failing condition.

The above headings do not include all examples of gastric disorder. Many instances of neurotic origin represent atypical or combined forms under these classes. An important group with an organic basis is represented in patients who have gastric symptoms which are reflex results of diseases of other organs, notably the gall-bladder. What I have said, however, represents a point of view from which many patients complaining of "indigestion" can be approached with considerable hope of improvement.

Trudeau Society

THE next meeting of the Society will be held on Tuesday, March 17, 1925, at 8:15 p. m., at Sprague Hall, Boston Medical Library.

Subjects:

Asthma and Its Relation to Tuberculosis,
Dr. Francis M. Rackemann
Bronchiectasis, Dr. Frederick T. Lord
Chronic Bronchitis and Other Non-Tubercu-

lous Conditions, Dr. E. O. Otis
This meeting should be of great interest and it is hoped that as many members as possible will attend and take part in the discussion.

Members of the medical profession will be welcome at this meeting.

OLIN S. PETTINGILL, M.D., *Secretary.*

Springfield Academy of Medicine

THE regular meeting of the Springfield Academy of Medicine was held at 137½ State St., Tuesday evening, March 10th.

Case report by Dr. Fred B. Sweet.

Dr. Walton Martin spoke on the subject, "Jaundice as an Indication for Surgical Intervention." Discussion was opened by Dr. John Birnie.

JAMES A. SEAMAN, *Secretary.*

New England Pediatric Society

THE ninetieth meeting of the New England Pediatric Society will be held at the Boston Medical Library on Friday, March 13, 1925, at 8:15 P. M.

The following papers will be read:

1. Mental Growth and Developmental Diagnoses in Infancy, Arnold Gesell, M. D., New Haven, Conn.

2. Children's Personality and Behavior, E. Stanley Abbot, M. D., Boston.

Light refreshments will be held after the meeting.

KENNETH D. BLACKFAN, M. D., *President.*
JOSEPH GARLAND, M. D., *Secretary.*

Children's Hospital Staff Clinic

A STAFF CLINIC will be held Friday, March 13th, at 4:30 P. M. Physicians are cordially invited to attend.

The American Board of Otolaryngology

THE American Board of Otolaryngology will hold its first examination during the Meeting of the American Medical Association in Atlantic City, May 25th to 28th.

According to the rules of the Board, applicants are divided into three classes.

Class I. Those who have practiced Otolaryngology ten years or more.

Class II. Those who have practiced Otolaryngology five years and less than ten years.

Class III. Those who have practiced Otolaryngology less than five years.

The type of examination is different for each class.

The Secretary, Dr. H. W. Loeb, announces that thus far over three hundred applications have been made.

Scarlet Fever Antitoxin

Editor BOSTON MEDICAL & SURGICAL JOURNAL:

I AM enclosing a notice about scarlet fever antitoxin which I think will be of interest and value to the members of the Medical Society.

I shall appreciate it if you find that this may properly be put into the JOURNAL for one or more times at your judgment.

The antitoxin has even more striking effects in scarlet fever than diphtheria antitoxin has in diphtheria and it is of great advantage to our patients to have it available.

Sincerely yours,

EDWIN H. PLACE,
Physician in Chief.

Through the interest of His Honor, Mayor James M. Curley, the Trustees of the Boston City Hospital have been able to secure a supply of scarlet fever antitoxin for use in the South Department, Boston City Hospital.

It was planned to have a supply adequate not only for use in the hospital but for physicians who might need the antitoxin for their patients.

This supply is now available and will be supplied to physicians at cost.

Application may be made to So. Dept. in person, by letter, telegram or telephone.

New England Roentgen Ray Society

A MEETING of the New England Roentgen Ray Society will be held Friday, March 20, at 8 o'clock at the Boston Medical Library. Dr. Willus F. Manges of Philadelphia will read a

paper entitled, "Foreign Bodies in the Air Passages and Esophagus." Discussion by Dr. D. Campbell Smyth, of the Mass. Eye and Ear Infirmary, Dr. Edwin H. Place, of the Boston City Hospital and Dr. Alexander MacMillan of the Mass. Eye and Ear Infirmary.

FRANK E. WHEATLEY, M. D., Sec'y.

SOCIETY MEETINGS

Essex North District Medical Society

May 6, 1925. Annual meeting at Lawrence.

Franklin District Medical Society

The meetings of the Franklin District Medical Society will be held on the second Tuesday of March and May.

Hampden District Medical Society

Meeting to be held on the third Tuesday in April.

Hampshire District Medical Society

The meetings will be held the second Wednesday of March and May.

Middlesex East District Medical Society

Wednesday, March 18. Harvard Club. Dr. John H. Cunningham, "Urinary Retention: Its Significance and Treatment."

Wednesday, April 15. Harvard Club.

Wednesday, May 13. Colonial Inn, North Reading.

Middlesex North District Medical Society

April 29, 1925.

Middlesex South District Medical Society

Winter Schedule.—The plans for winter meetings of the Society include the stated meeting in April, two hospital meetings, and five meetings to be held in conjunction with the Suffolk District Medical Society and the Boston Medical Library (two surgical, two medical, and one general).

Norfolk District Medical Society

March 31, 1925. Tufts College Medical School. This meeting given over to Drs. Leary and Waiters for the purpose of giving us a medical examiners' talk.

Norfolk South District Medical Society

Meetings will be held the first Thursday of each month to May, inclusive, at 12 noon, at the Norfolk County Hospital, South Braintree.

Suffolk District Medical Society

March 25. Medical Section, in association with the Middlesex South District Medical Society. "The Treatment of Pneumonia." Dr. Edwin A. Locke.

April 29. Annual meeting. "Hypertension and Longevity." Dr. Harold M. Frost.

Worcester District Medical Society

April 9, 1925. Subject and speaker to be announced.

April 14, 1925. Annual meeting.

If you desire further information in regard to these meetings write to the Secretaries of the District Medical Societies (listed on page xii of the Advertising Section). The Massachusetts Medical Society Directory contains their addresses.

BOOK REVIEWS

The Cure of Obesity. By JEAN FRUMUSAN. Translated from the French by Elaine A. Wood. 124 pages. New York: William Wood & Co. 1924. Price, \$2.50.

This small volume has at least two virtues: its size, and its presentation of interesting ideas in an interesting manner.

Proceeding from the sound thesis that nearly all hereditary or acquired obesity is rooted in the combination of two great hygienic errors, viz., Superalimentation and Sedentarianism, the author outlines in a detailed and refreshing manner his methods of treatment, proceeding thence in orderly fashion to the presentation of the following summary:

"Putting aside all the hypotheses and all the learned theories which have not, as yet, been verified, either in physiology or in therapeutics, our object has been to explain as simply as possible how people become obese, what constitutes obesity, and what are its consequences.

"Incipient obesity is a great danger, which one must know how to track down in its early stages. As a rule, it is only when the disease has developed and caused damages difficult to repair, that we notice it. Many people are obese without being aware of the fact, and are already on the fatal road towards the great obesity and its dilapidations. One must

learn to discover the insidious intrusion of the enemy at its outset, know how to avoid it, how to fight it; to beware of spas and quacks, who remove a few hundred grammes from the weight and destroy the remainder of the patient's health at the same time.

"Obesity can be avoided if hereditary tendencies are feared; it can be checked at the outset and cured when it has developed. Whatever its origin, obesity is definitely evolved on the solid foundation of functional deviation of the assimilation. This is which must be watched, fought and conquered, if a cure is to be obtained. The melting of the fat is only one episode in the struggle, and not even the most important one. Re-equilibrate nutrition to begin with, destroy the fat, which will not return, repair the dilapidations by reconstructing a normal body for the patient, and we shall then be able to cry 'Victory!' The treatment must therefore correspond with the three guiding data: *Reeducation of nutrition, destruction of fat, resurrection of the musculature*, all of which will be amply accomplished by *fasting, ionized galvanization, rational diet, and physical culture*. These four fundamentals can be used in every case, whatever may be the pathological complications for which adjuvant physio-therapeutic and therapeutic medication will be requisitioned.

"The old-fashioned medications: luminous heat (so-called light baths), dark heat, whether dry or moist, general massage, starvation diets, thermal and purgative treatments, secret remedies or decreasing ointments and medicines, purporting to make people thin, must all be eliminated as useless and even injurious.

"When obesity has not reached a very advanced stage, the patient can be cured anywhere, without interrupting his work and without danger to his organism. Far from weakening him, the treatment rejuvenates him. A very imposing array of observations, on cases extending over the last ten years, are there to bear witness to this assertion."

It is a pleasure to recommend this small monograph to the attention both of those who are themselves obese or are in danger of obesity, and of those who have the care of those who are obese or are in danger of obesity.

Chronic Intestinal Stasis (Arbuthnot Lane's Disease); A Radiological Study. By ALFRED C. JORDAN, C.B.E., M.D. (Camb.), M.R.C.P. (Lond.). 230 pages. London: Henry Frowde and Hodder & Stoughton. 1923.

Dedicated in grateful admiration to Sir Arbuthnot Lane, Bart., "Father of Stasis," this volume is in format in every way the equal of its predecessors in the group of Oxford Medical Publications.

In his preface, Jordan states that he has attempted to give an ordered account of chronic intestinal stasis. "I have found it a difficult task, so interwoven are the effects of stasis."

Jordan continues as follows in his Introduction: "Sir Arbuthnot Lane was the first to direct our attention to chronic intestinal stasis. Now its importance has become universally recognized. This volume deals with the condition as seen by the radiologist, and gives a general account of stasis and its results."

"Chronic intestinal stasis is a disease due to abnormal delay in the passage of the intestinal contents through some or all parts of the intestines, and to the absorption of bacterial toxins resulting from intestinal stagnation."

"So diverse and severe are the changes wrought by stasis that there is urgent need for a widespread understanding of the disease, which has only come to be appreciated since the genius of Sir Arbuthnot Lane disclosed its nature. He has led us a long way on the road to a correct understanding of the essential unity of disease, and has taught us to regard the

organism as a whole, and not as an assemblage of organs in water-tight compartments."

Lane, in his foreword, states that he is "glad to have this opportunity of testifying to the great help afforded by radiology in the elucidation of many of the problems of chronic intestinal stasis. Dr. A. C. Jordan was the first to apply the resources of radiology to the study of stasis. The originality and observation which he has brought to bear on the subject of stasis have been of the greatest value in demonstrating—in a way that is clear to all—the abnormalities of structure and function of the gastro-intestinal tract. Much of his success is due to his having attended many operations on patients after he had completed his radiographic investigation of their alimentary tracts."

"This book will prove of immense value to the medical profession, since the X-ray pictures demonstrate facts far more graphically than any written exposition. The book should appeal particularly to the general practitioner, who is in frequent and intimate contact with his patients. He will realize the importance of dealing with stasis in its early stages, and averting the disastrous consequences which ensue when the warnings are disregarded."

"As time goes on the profession will see that the disturbances of metabolism, and the absorption of toxins from the gastro-intestinal tract, due to stasis, are of enormous importance. Many surgical operations, at present needed, will fall into disuse. Early treatment is essential to prevent the many serious consequences of neglected stasis, most of which are graphically demonstrated in this book. Numerous diseases, at present the bane of civilized man, will disappear once they are recognized to be results of auto-intoxication, and the conditions of life adapted to the preservation of healthy bodies."

"This is no Utopian ideal, but the real foundation of medicine."

One may take exception to some of the logic and some of the statements categorically offered. One may note that much of the subject matter of this volume wanders somewhat far from its title page limitation of "a radiologic study." One may express a mild surprise that the author should so rarely have remarked the colon in active movement; especially, that in regard to anti-peristalsis and oscillating movements of the colon, it should be necessary for him to declare that "I personally have never seen them."

The fact remains that this book offers one of the most acceptable, well-illustrated, authoritative and up-to-date presentations of the English and especially Lane's views of the fundamental and ever-present problem of Stasis, which has recently become available on this side of the Atlantic.

Its careful perusal is recommended to those who would promote to the greatest degree the welfare of the patient who complains of disability of gastro-intestinal origin.

Human Constitution: A Consideration of Its Relationship to Disease. By GEORGE DRAPER, M.D. Foreword by Sir Arthur Keith. 345 pages. Philadelphia: W. B. Saunders & Co. 1924. Price, \$7.50.

The author conceives the Personality of Man as a sort of Japanese screen across the several panels of which one may visualize a complete picture of man's nature or individuality. He sees the completed picture drawn across four main "Panels of Personality." These four main panels of personality, "which present themselves for investigation are the hereditary unit characters found in the domains of anatomy, physiology, psychology, and immunity. It is true that much thoughtful study has been spent upon each one of the panels. But all the anatomic panels of many human beings have been studied together and stacked in one corner, all the physiologic in another, the psychologic in a third, and all the immunity in a fourth."

"Now it has been found that if the four panels of personality be studied and correlated in each person of a large number of individuals, one soon realizes that there is frequent repetition of certain combinations of characters. These recurrences are so definite that from a careful analysis of a given anatomic panel it is possible to predicate with great correctness the nature of the other panels. Upon this basis undoubtedly has rested the unconscious skill of the older clinicians in what has been called 'The Clinical Hunch.' The attempt has been made to catch the 'Clinical Hunch' in terms of numerical indices.

"Constitution, according to the view of it expressed in these pages, is that aggregate of hereditary characters, influenced more or less by environment, which determines the individual's reaction successful or unsuccessful to the stress of environment."

"The object of this book is three-fold; first, it attempts to present to the physician a dependable method of studying morphology; second, to point out the inadequacies of the existing observational and descriptive procedure; and third, to emphasize the interest and importance of the study of human constitution."

"The book is concerned with the problem of securing for the clinician those methods which will best display the significant characteristics of each panel of a given individual, and the means of correlating them, of putting the panels of the screen together. In this way we may come to know as clinicians, at least as much about the variable factor Man, the subject of disease, as we do about the variable outward agencies which react with Man to produce disease. The book is brought to publication at this time largely because of the many requests for a uniform method."

"A study of human beings tends to equalize the distribution of investigative effort around the three basic elements of the disease problem, Man, the lesion, and environmental stress."

In general, the entire book is devoted to a study of the "anatomic panel" of personality. The book falls naturally into three distinct parts. Firstly, a general review of the subject covering the first forty-four pages. Secondly, a consideration of the charts based upon anatomic measurements, as applied to the six following clearly defined disease groups: pernicious anemia, tuberculosis of the lungs, asthma, cardio-renal disease, gall bladder disease, and ulcer of the stomach and duodenum. This consideration of the charts occupies the second one hundred and seventy-seven pages of the book. The third one hundred and eight pages of the book consist exclusively of an extensive collection of numerical tables and indices based upon the original anatomic measurements.

The anatomic measurements were applied to a total of 298 cases, 169 of these being male and 129 female. A list of 86 measurements is given, most of them doubtless being applied to each individual patient. By a process of arithmetic one arrives at a total of over 26,000 observations recorded as preliminary data from which to construct the various tabulations and the series of 35 indices upon which Draper depends for his information in his attempt to displace the Clinical Hunch by pure science. It is to be regretted that inconsistencies should find place in a book which so stresses accuracy. Thus, in the historical review one may note certain errors both of commission and of omission.

Also, having condemned the observational method, the author includes in his list of 88 anatomical measurements from which he constructs his anatomic panel, a total of 15 items depending for their accuracy not upon accurate measurements but upon pure observation. According to his thesis, here is at the outset introduced into a projected area of accuracy, an initial margin of inaccuracy comprising as high as 17% of the total measurements depended upon for the inferences drawn with regard to only

six diseases, the clinical material for the study even of these few diseases being admittedly inadequate.

To the reviewer the idea suggests itself that the author has already accumulated more data than has been digested. Eventually one may hope that out of this method and this mass of data, there will emerge by a process of elimination, a few dependable facts which will prove of practical clinical value. But today and perhaps always we shall see the Clinical Hunch holding its own against pure science, when medical art is to be applied to relieve the ills of the human being who suffers from disease. This is of course assuming that the Clinical Hunch connotes not wild guesswork, but the clinical application to the individual patient of the highly trained special senses of the superior physician endowed with practical experience and human sympathy.

To the pioneer comes much labor and often much honor. To the author is due the thanks of those who will surely profit by a continuation of his labors to solve some of the riddles of Personality. We may well agree with Keith, who thus concludes his Foreword: "It will probably fall out that the machinery of hormones and endocrines will prove to be infinitely more complex than we now think, and that the varieties and grades of temperament will far outnumber our present scheme of classification. However this may be, there can be no doubt that Dr. Draper has rendered Medicine a great service by applying the methods of strict science to a field of investigation which is urgently in need of exploration."

ACKNOWLEDGMENT OF BOOKS FOR REVIEW

Safeguarding Children's Nerves—A Handbook of Mental Hygiene. By James J. Walsh and John A. Foote. Philadelphia and London: J. T. Lippincott Company. 272 pages. Price, \$2.50.

Clinical Studies in Epilepsy. By Donald Fraser. New York: William Wood & Co. Edinburgh: E. & S. Livingstone. 243 pages. Price, \$2.50.

The Cure of Obesity. By Jean Frémusau. New York: William Wood & Co. 124 pages. Price, \$2.50. *Infantile Paralysis in Vermont—1894-1922.* Burlington, Vt.: State Department of Health. 375 pages.

Studies from the Rockefeller Institute for Medical Research. Reprints, Vol. L. Published by the Institute. 572 pages. Price, \$2.

Volumetric Analysis. Eleventh edition. Francis Sutton. Philadelphia: P. Blakiston's Son & Co. 629 pages. Price, \$9.

Lectures on Pathology. By Ludwig Aschoff. New York: Paul B. Hoeber. 365 pages. Price, \$5.

Manual of Psychiatry for the Medical Student and General Practitioner. By Paul E. Bowers. Philadelphia and London: W. B. Saunders Company. 365 pages. Price, \$3.50 net.

The Practice of Pediatrics. By Charles G. Kerley. Philadelphia and London: W. B. Saunders Company. 922 pages. Price, \$9.

Diseases of the Heart. By Henri Vaquey. Translated by George F. Laidlaw. Philadelphia and London: W. B. Saunders Company. 743 pages. Price, \$8.50 net.

Pediatrics. Isaac A. Abt. Volume 5. Philadelphia and London: W. B. Saunders Company. 865 pages. Price, \$10.

The Medical Annual. Bristol: John Wright & Sons, Ltd. London: Simpkin Marshall, Hamilton, Kent & Co., Ltd. (Forty-second year). 616 pages. Price, 20/- net, cash price, British Isles.

Physical Diagnosis. By W. D. Rose, M.D. St. Louis: The C. V. Mosby Company. 755 pages. Price, \$8.50 (Fourth edition).

The Errors of Accommodation and Refraction of the Eye and Their Treatment. By Ernest Clarke, M.D. Fifth edition. New York: William Wood & Co. 251 pages. Price, \$3.50.

The Insulin Treatment of Diabetes Mellitus. By

P. J. Cammidge. Second edition. New York and Edinburgh: William Wood & Co.—E. & S. Livingstone. 216 pages. Price, \$2.50.

Lord Lister. By Sir Rickman John Godlee, Br. Third edition, revised. New York: Oxford University Press, American Branch. 682 pages. Price, \$7.

International Clinics. Vol. IV—Series 1924. Philadelphia and London: J. B. Lippincott Company. 308 pages.

Gay Patin. By Francis R. Packard, M.D. New York: Paul B. Hoeber, Inc. 334 pages. Price, \$4.

A Textbook of Pathology. By W. G. MacCallum, M.D. Third edition. Philadelphia and London: W. B. Saunders Company. 1162 pages. Price, \$10.

A Manual of Obstetrics. By John Cooke Hirst, M.D. Second edition, reset. Philadelphia and London: W. B. Saunders Company. 551 pages. Price, \$4.50.

Concealed Tuberculosis, or "The Tired Sickness." By George Douglas Head. Philadelphia: P. Blakiston's Son & Co. 137 pages. Price, \$2.

The Pneumococcus and Pneumococcal Affections. By C. Cotini, C. Truche and Mlle. A. Raphael. London: John Bale, Sons and Danielsson, Ltd. 218 pages. Price, 16/-.

Studies from the Rockefeller Institute for Medical Research. Reprints, Volume LI. New York: Rockefeller Institute for Medical Research. 592 pages.

Treasury. Annual Reports 1924 of the Surgeons-General of the Public Health Service of the United States. Government Printing Office. 310 pages.

Physio-Therapy in General Practice and for the Use of Masses. By Bellis Clayton, M.B. New York: William Wood & Co. 174 pages. Price, \$3.50.

Operative Surgery. Volume VI. Warren Stone Blackham. Philadelphia and London: W. B. Saunders Company. 189 pages.

Eye, Ear, Nose, Throat. Volume III. By Wood, Andrews, Shambaugh. Chicago: The Year Book Publishers. 491 pages.

General Medicine. Volume I. By Weaver, Brown, Preble, Sippy. Chicago: The Year Book Publishers. 736 pages. Price, \$3.

The Advance of Orthopaedic Surgery. By A. H. Tubby. London: H. K. Lewis & Co., Ltd. 144 pages. Price, 7/6 net.

The Distribution of Physicians in the United States. L. Mavers and L. V. Harrison. New York: General Education Board. 197 pages.

Medi-Cult (The A-B-C of the Medical Profession). By F. Lorance, M.D. Boston: Richard G. Badger. 73 pages. Price, \$1.50.

General Surgery. Volume II. By Albert J. Ochsner. Chicago: The Year Book Publishers. 706 pages. Price, \$3.

The Chemical Aspects of Immunity. By H. Gideon Wells, M.D. New York: The Chemical Catalog Company, Inc. 254 pages.

Bacteria in Relation to Man. By Jean Broadhurst. Philadelphia and London: J. B. Lippincott Company. 304 pages. Price, \$3.

Practical Lectures. By the Medical Society of the County of Kings. New York: Paul B. Hoeber, Inc. 484 pages. Price, \$5.50.

Rheumatic Heart Disease. By Carey F. Coombs. New York: William Wood & Co. 376 pages. Price, \$4.50.

Surgical Pathology. By William Boyd. Philadelphia and London: W. B. Saunders Company. 837 pages. Price, \$10.

The Nature of Disease. By J. E. R. McDonagh. London: William Heinemann, Ltd. 340 pages. Price, £3.35.

Practical Anaesthetics. By H. Edmund G. Boyle. London: Henry Frowde and Hodder & Stoughton. 187 pages. Price, \$2.

Common Infections of the Female Urethra and Cervix. By Frank Kidd and A. Malcolm Simpson. London: Humphrey Milford—Oxford University Press. 191 pages. Price, \$2.50.